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<sup>&</sup>lt;211> 319

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;220>

<sup>&</sup>lt;221> sig peptide

<sup>&</sup>lt;222> 1-17

<sup>&</sup>lt;223> Signal Peptide

<sup>&</sup>lt;220>

<sup>&</sup>lt;221> misc feature

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<222> 36-47, 108-113, 166-171,198-203, 207-212
<223> N-myristoylation Sites.
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<221> misc feature
<222> 39-42
<223> Glycosaminoglycan Attachment Site.
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<221> TRANSMEM
<222> 136-152
<223> Transmembrane Domain
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<221> misc feature
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 Ala Arg Thr Phe Asp Lys Lys Gly Phe His Val Ile Ala Ala Cys
 Leu Thr Glu Ser Gly Ser Thr Ala Leu Lys Ala Glu Thr Ser Glu
 Arg Leu Arg Thr Val Leu Leu Asp Val Thr Asp Pro Glu Asn Val
 Lys Arg Thr Ala Gln Trp Val Lys Asn Gln Val Gly Glu Lys Gly
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 Pro Thr Asp Trp Leu Thr Leu Glu Asp Tyr Arg Glu Pro Ile Glu
                  125
 Val Asn Leu Phe Gly Leu Ile Ser Val Thr Leu Asn Met Leu Pro
                                                           150
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 Gly Gly Arg Leu Ala Ile Val Gly Gly Tyr Thr Pro Ser Lys
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 Tyr Ala Val Glu Gly Phe Asn Asp Ser Leu Arg Arg Asp Met Lys
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185

190

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Ile Trp Glu Gln Leu Ser Pro Asp Ile Lys Gln Gln Tyr Gly Glu
                230
Gly Tyr Ile Glu Lys Ser Leu Asp Lys Leu Lys Gly Asn Lys Ser
                                    250
Tyr Val Asn Met Asp Leu Ser Pro Val Val Glu Cys Met Asp His
                                                         270
                260
Ala Leu Thr Ser Leu Phe Pro Lys Thr His Tyr Ala Ala Gly Lys
                                                         285
Asp Ala Lys Ile Phe Trp Ile Pro Leu Ser His Met Pro Ala Ala
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Leu Gln Asp Phe Leu Leu Leu Lys Gln Lys Ala Glu Leu Ala Asn
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gccgcctcat cgggacttca tctcggtgac gctgagcttt ggcgagagct 200
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100

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Met	Arg	Pro	Glu	Ile 125	Ala	Gly	Leu	Lys	Pro 130	Ala	Asn	Pro	Pro	Val 135
Leu	Pro	Ala	Pro	Gln 140	Lys	Ala	Asp	Thr	Asp 145	Pro	Glu	Asn	Leu	Pro 150
Glu	Ile	Ser	Ser	Gln 155	Lys	Thr	Gln	Arg	His 160	Ile	Gln	Arg	Gly	Pro 165
Pro	His	Leu	Gln	Ile 170	Arg	Pro	Pro	Ser	Gln 175	Asp	Leu	Lys	Asp	Gly 180
Thr	Gln	Glu	Glu	Ala 185	Thr	Lys	Arg	Gln	Glu 190	Ala	Pro	Val	Asp	Pro 195
Arg	Pro	Glu	Gly	Asp 200	Pro	Gln	Arg	Thr	Val 205	Ile	Ser	Trp	Arg	Gly 210
Ala	Val	Ile	Glu	Pro 215	Glu	Gln	Gly	Thr	Glu 220	Leu	Pro	Ser	Arg	Arg 225
Ala	Glu	Val	Pro	Thr 230	Lys	Pro	Pro	Leu	Pro 235	Pro	Ala	Arg	Thr	Gln 240
Gly	Thr	Pro	Val	His 245	Leu	Asn	Tyr	Arg	Gln 250	Lys	Gly	Val	Ile	Asp 255
Val	Phe	Leu	His	Ala 260	Trp	Lys	Gly	Tyr	Arg 265	Lys	Phe	Ala	Trp	Gly 270
His	Asp	Glu	Leu	Lys 275	Pro	Val	Ser	Arg	Ser 280	Phe	Ser	Glu	Trp	Phe 285
Gly	Leu	Gly	Leu	Thr 290	Leu	Ile	Asp	Ala	Leu 295	Asp	Thr	Met	Trp	Ile 300
Leu	Gly	Leu	Arg	Lys 305	Glu	Phe	Glu	Glu	Ala 310	Arg	Lys	Trp	Val	Ser 315
Lys	Lys	Leu	His	Phe 320	Glu	Lys	Asp	Val	Asp 325	Val	Asn	Leu	Phe	Glu 330
Ser	Thr	Ile	Arg	Ile 335	Leu	Gly	Gly	Leu	Leu 340	Ser	Ala	Tyr	His	Leu 345
Ser	Gly	Asp	Ser	Leu 350	Phe	Leu	Arg	Lys	Ala 355	Glu	Asp	Phe	Gly	Asn 360
Arg	Leu	Met	Pro	Ala 365	Phe	Arg	Thr	Pro	Ser 370	Lys	Ile	Pro	Tyr	Ser 375
Asp	Val	Asn	Ile	Gly 380	Thr	Gly	Val	Ala	His 385	Pro	Pro	Arg	Trp	Thr 390
Ser	Asp	Ser	Thr	Val	Ala	Glu	Val	Thr	Ser	Ile	Gln	Leu	Glu	Phe

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Arg	Glu	Leu	Ser	Arg 410	Leu	Thr	Gly	Asp	Lys 415	Lys	Phe	Gln	Glu	Ala 420
Val	Glu	Lys	Val	Thr 425	Gln	His	Ile	His	Gly 430	Leu	Ser	Gly	Lys	Lys 435
Asp	Gly	Leu	Val	Pro 440	Met	Phe	Ile	Asn	Thr 445	His	Ser	Gly	Leu	Phe 450
Thr	His	Leu	Gly	Val 455	Phe	Thr	Leu	Gly	Ala 460	Arg	Ala	Asp	Ser	Tyr 465
Tyr	Glu	Tyr	Leu	Leu 470	Lys	Gln	Trp	Ile	Gln 475	Gly	Gly	Lys	Gln	Glu 480
Thr	Gln	Leu	Leu	Glu 485	Asp	Tyr	Val	Glu	Ala 490	Ile	Glu	Gly	Val	Arg 495
Thr	His	Leu	Leu	Arg 500	His	Ser	Glu	Pro	Ser 505	Lys	Leu	Thr	Phe	Val 510
Gly	Glu	Leu	Ala	His 515	Gly	Arg	Phe	Ser	Ala 520	Lys	Met	Asp	His	Leu 525
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Cys	Tyr	Gln	Met	Asn 560	Arg	Gln	Met	Glu	Thr 565	Gly	Leu	Ser	Pro	Glu 570
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Glu	Val	Lys	Pro	Ala 590	Asp	Arg	His	Asn	Leu 595	Leu	Arg	Pro	Glu	Thr 600
Val	Glu	Ser	Leu	Phe 605	Tyr	Leu	Tyr	Arg	Val 610	Thr	Gly	Asp	Arg	Lys 615
Tyr	Gln	Asp	Trp	Gly 620	Trp	Glu	Ile	Leu	Gln 625	Ser	Phe	Ser	Arg	Phe 630
Thr	Arg	Val	Pro	Ser 635	Gly	Gly	Tyr	Ser	Ser 640	Ile	Asn	Asn	Val	Gln 645
Asp	Pro	Gln	Lys	Pro 650	Glu	Pro	Arg	Asp	Lys 655	Met	Glu	Ser	Phe	Phe 660
Leu	Gly	Glu	Thr	Leu 665	Lys	Tyr	Leu	Phe	Leu 670	Leu	Phe	Ser	Asp	Asp 675
Pro	Asn	Leu	Leu	Ser 680		Asp	Ala	Tyr	Val 685	Phe	Asn	Thr	Glu	Ala 690

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<211> 24
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<213> Artificial
<220>
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<222> 1-24
<223> Synthetic construct.
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<211> 24
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<213> Artificial
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<222> 1-24
<223> Synthetic construct.
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<211> 44
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<220>
<221> Artificial Sequence
<222> 1-44
<223> Synthetic construct.
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<210> 16
<211> 1524
<212> DNA
<213> Homo sapiens
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 ccctcggaag tgttccgtct tccacctgtt cgtggcctgc ctctcgctgg 200
 gcttcttctc cctactctgg ctgcagctca gctgctctgg ggacgtggcc 250
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gcaccacatc tacgtgctca accaggtgga ccacttcagg ttcaaccggg 500
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<sup>&</sup>lt;213> Homo sapiens

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<222> 1-42
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<223> N-myristoylation site.
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<222> 27-31
<223> cAMP- and cGMP-dependent protein kinase phosphorylation site.
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<221> TRANSMEM
<222> 29-49
<223> Transmembrane domain (type II).
<220>
<221> misc feature
<222> 154-158
<223> N-glycosylation site.
<220>
<221> misc feature
<222> 226-233
<223> Tyrosine kinase phosphorylation site.
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 Gly Arg Ser Gly Leu Leu Ser Gly Gly Leu Pro Arg Lys Cys Ser
 Val Phe His Leu Phe Val Ala Cys Leu Ser Leu Gly Phe Phe Ser
 Leu Leu Trp Leu Gln Leu Ser Cys Ser Gly Asp Val Ala Arg Ala
 Val Arg Gly Gln Gly Gln Glu Thr Ser Gly Pro Pro Arg Ala Cys
 Pro Pro Glu Pro Pro Pro Glu His Trp Glu Glu Asp Ala Ser Trp
 Gly Pro His Arg Leu Ala Val Leu Val Pro Phe Arg Glu Arg Phe
                                                           105
                   95
 Glu Glu Leu Leu Val Phe Val Pro His Met Arg Arg Phe Leu Ser
                                      115
 Arg Lys Lys Ile Arg His His Ile Tyr Val Leu Asn Gln Val Asp
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                                      130
                  125
 His Phe Arg Phe Asn Arg Ala Ala Leu Ile Asn Val Gly Phe Leu
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Gly	Pro	Phe	His	Val 185	Ala	Ser	Pro	Glu	Leu 190	His	Pro	Leu	Tyr	His 195
Tyr	Lys	Thr	Tyr	Val 200	Gly	Gly	Ile	Leu	Leu 205	Leu	Ser	Lys	Gln	His 210
Tyr	Arg	Leu	Cys	Asn 215	Gly	Met	Ser	Asn	Arg 220	Phe	Trp	Gly	Trp	Gly 225
Arg	Glu	Asp	Asp	Glu 230	Phe	Tyr	Arg	Arg	Ile 235	Lys	Gly	Ala	Gly	Leu 240
Gln	Leu	Phe	Arg	Pro 245	Ser	Gly	Ile	Thr	Thr 250	Gly	Tyr	Lys	Thr	Phe 255
Arg	His	Leu	His	Asp 260	Pro	Ala	Trp	Arg	Lys 265	Arg	Asp	Gln	Lys	Arg 270
Ile	Ala	Ala	Gln	Lys 275	Gln	Glu	Gln	Phe	Lys 280	Val	Asp	Arg	Glu	Gly 285
Gly	Leu	Asn	Thr	Val 290	Lys	Tyr	His	Val	Ala 295	Ser	Arg	Thr	Ala	Leu 300
Ser	Val	Gly	Gly	Ala 305	Pro	Cys	Thr	Val	Leu 310	Asn	Ile	Met	Leu	Asp 315
Cys	Asp	Lys	Thr	Ala 320		Pro	Trp	Cys	Thr 325	Phe	Ser			
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<213> Homo sapiens
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<223> Growth factor and cytokines receptors family.

<400> 22

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Phe Leu Cys Leu Leu Pro His Arg Pro Ala Met Thr Cys Ser Gln 50 60

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<210> 23

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<212> DNA

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Asp Gly Arg Pro Arg Gly Ala Gly Arg Ala Ala Gly Ala Ala Glu

Gly Lys Val Val Cys Ser Ser Leu Glu Leu Ala Gln Val Leu Pro 65

Pro Asp Thr Leu Pro Asn Arg Thr Val Thr Leu Ile Leu Ser Asn 85 80

Asn Lys Ile Ser Glu Leu Lys Asn Gly Ser Phe Ser Gly Leu Ser Leu Leu Glu Arg Leu Asp Leu Arg Asn Asn Leu Ile Ser Ser Ile Asp Pro Gly Ala Phe Trp Gly Leu Ser Ser Leu Lys Arg Leu Asp 130 Leu Thr Asn Asn Arg Ile Gly Cys Leu Asn Ala Asp Ile Phe Arg Gly Leu Thr Asn Leu Val Arg Leu Asn Leu Ser Gly Asn Leu Phe 155 Ser Ser Leu Ser Gln Gly Thr Phe Asp Tyr Leu Ala Ser Leu Arg Ser Leu Glu Phe Gln Thr Glu Tyr Leu Leu Cys Asp Cys Asn Ile 185 Leu Trp Met His Arg Trp Val Lys Glu Lys Asn Ile Thr Val Arg Asp Thr Arg Cys Val Tyr Pro Lys Ser Leu Gln Ala Gln Pro Val Thr Gly Val Lys Gln Glu Leu Leu Thr Cys Asp Pro Pro Leu Glu 230 Leu Pro Ser Phe Tyr Met Thr Pro Ser His Arg Gln Val Val Phe 245 Glu Gly Asp Ser Leu Pro Phe Gln Cys Met Ala Ser Tyr Ile Asp 260 Gln Asp Met Gln Val Leu Trp Tyr Gln Asp Gly Arg Ile Val Glu 275 Thr Asp Glu Ser Gln Gly Ile Phe Val Glu Lys Asn Met Ile His 295 Asn Cys Ser Leu Ile Ala Ser Ala Leu Thr Ile Ser Asn Ile Gln 305 Ala Gly Ser Thr Gly Asn Trp Gly Cys His Val Gln Thr Lys Arg Gly Asn Asn Thr Arg Thr Val Asp Ile Val Val Leu Glu Ser Ser 335 Ala Gln Tyr Cys Pro Pro Glu Arg Val Val Asn Asn Lys Gly Asp 355 Phe Arg Trp Pro Arg Thr Leu Ala Gly Ile Thr Ala Tyr Leu Gln 365 Cys Thr Arg Asn Thr His Gly Ser Gly Ile Tyr Pro Gly Asn Pro

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Trp	Ala	Asp	Asp	Asp 410	Tyr	Ser	Arg	Cys	Gln 415	Tyr	Ala	Asn	Asp	Val 420
Thr	Arg	Val	Leu	Tyr 425	Met	Phe	Asn	Gln	Met 430	Pro	Leu	Asn	Leu	Thr 435
Asn	Ala	Val	Ala	Thr 440	Ala	Arg	Gln	Leu	Leu 445	Ala	Tyr	Thr	Val	Glu 450
Ala	Ala	Asn	Phe	Ser 455	Asp	Lys	Met	Asp	Val 460	Ile	Phe	Val	Ala	Glu 465
Met	Ile	Glu	Lys	Phe 470	Gly	Arg	Phe	Thr	Lys 475	Glu	Glu	Lys	Ser	Lys 480
Glu	Leu	Gly	Asp	Val 485	Met	Val	Asp	Ile	Ala 490	Ser	Asn	Ile	Met	Leu 495
Ala	Asp	Glu	Arg	Val 500	Leu	Trp	Leu	Ala	Gln 505	Arg	Glu	Ala	Lys	Ala 510
Cys	Ser	Arg	Ile	Val 515	Gln	Суз	Leu	Gln	Arg 520	Ile	Ala	Thr	Tyr	Arg 525
Leu	Ala	Gly	Gly	Ala 530	His	Val	Tyr	Ser	Thr 535	Tyr	Ser	Pro	Asn	Ile 540
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Thr	Cys	Thr	Val	Phe 560	Gln	Lys	Val	Ala	Ala 565	Ser	Asp	Arg	Thr	Gly 570
Leu	Ser	Asp	Tyr	Gly 575	Arg	Arg	Asp	Pro	Glu 580	Gly	Asn	Leu	Asp	Lys 585
Gln	Leu	Ser	Phe	Lys 590	Cys	Asn	Val	Ser	Asn 595	Thr	Phe	Ser	Ser	Leu 600
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Gln Gln Arg Leu Arg Asp Gly Val Ile Arg Asp Ile Glu Arg Gln
35 40 45

Ile Arg Lys Lys Glu Asn Ile Arg Leu Leu Gly Glu Gln Ile Ile 50 55 60

Leu Thr Glu Gln Leu Glu Ala Glu Arg Glu Lys Met Leu Leu Ala 65 70 75

Lys Gly Ser Gln Lys Ser 80

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tgategtggg gteecetegg geeetgacae ageeeetggg tetecttege 250
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<212> PRT

<213> Homo sapiens

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35 40 45

Ser Thr Cys Val Ala Phe Ser Leu Val Ala Ser Val Gly Ala Trp 50 55 60

Thr Gly Ser Met Gly Asn Trp Ser Met Phe Thr Trp Cys Phe Cys 65 70 75

Phe Ser Val Thr Leu Ile Ile Leu Ile Val Glu Leu Cys Gly Leu 80 85 90

Gln Ala Arg Phe Pro Leu Ser Trp Arg Asn Phe Pro Ile Thr Phe 95 100 105

Ala Cys Tyr Ala Ala Leu Phe Cys Leu Ser Ala Ser Ile Ile Tyr 110 115 120

Pro Thr Thr Tyr Val Gln Phe Leu Ser His Gly Arg Ser Arg Asp 125 130 135

His Ala Ile Ala Ala Thr Phe Phe Ser Cys Ile Ala Cys Val Ala 140 145 150

Tyr Ala Thr Glu Val Ala Trp Thr Arg Ala Arg Pro Gly Glu Ile 155 160 165

Thr Gly Tyr Met Ala Thr Val Pro Gly Leu Leu Lys Val Leu Glu 170 175 180

Thr Phe Val Ala Cys Ile Ile Phe Ala Phe Ile Ser Asp Pro Asn 185 190 195

Leu Tyr Gln His Gln Pro Ala Leu Glu Trp Cys Val Ala Val Tyr
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Gly Glu Cys Thr Asn Val Leu Pro Ile Pro Phe Pro Ser Phe Leu
Ser Gly Leu Ala Leu Leu Ser Val Leu Leu Tyr Ala Thr Ala Leu
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Val Leu Trp Pro Leu Tyr Gln Phe Asp Glu Lys Tyr Gly Gln
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Pro Arg Arg Ser Arg Asp Val Ser Cys Ser Arg Ser His Ala Tyr
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                                    280
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Tyr Val Cys Ala Trp Asp Arg Arg Leu Ala Val Ala Ile Leu Thr
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Ala Ile Asn Leu Leu Ala Tyr Val Ala Asp Leu Val His Ser Ala
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His Leu Val Phe Val Lys Val

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<213> Homo sapiens

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Ser Leu Ala Gln Val Asn Leu Ser Pro Phe Ser His Pro Lys Val
35 40 45

His Met Asp Pro Asn Tyr Cys His Pro Ser Thr Ser Leu His Leu 50 55 60

Cys Ser Leu Ala Trp Ser Phe Thr Arg Leu Leu His Pro Pro Leu 65 70 75

Ser Pro Gly Ile Ser Gln Val Val Lys Asp His Val Thr Lys Pro 80 85 90

Thr Ala Met Ala Gln Gly Arg Val Ala His Leu Ile Glu Trp Lys 95 100 105

Gly Trp Ser Lys Pro Ser Asp Ser Pro Ala Ala Leu Glu Ser Ala 110 115 120

Phe Ser Ser Tyr Ser Asp Leu Ser Glu Gly Glu Gln Glu Ala Arg 125 130 135

Phe Ala Ala Gly Val Ala Glu Gln Phe Ala Ile Ala Glu Ala Lys 140 145 150

Leu Arg Ala Trp Ser Ser Val Asp Gly Glu Asp Ser Thr Asp Asp 155 160 165

Ser Tyr Asp Glu Asp Phe Ala Gly Gly Met Asp Thr Asp Met Ala 170 175 180

Gly Gln Leu Pro Leu Gly Pro His Leu Gln Asp Leu Phe Thr Gly
185 190 195

His Arg Phe Ser Arg Pro Val Arg Gln Gly Ser Val Glu Pro Glu 200 205 210

Ser Asp Cys Ser Gln Thr Val Ser Pro Asp Thr Leu Cys Ser Ser 215 220 225

Leu Cys Ser Leu Glu Asp Gly Leu Leu Gly Ser Pro Ala Arg Leu 230 235 240

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Pro Ser Arg Glu Ser Ala Phe Arg Ser Leu Gly Pro Leu Glu Ala
Gln Asp Ser Leu Tyr Asn Ser Pro Leu Thr Glu Ser Cys Leu Ser
                 275
                                     280
Pro Ala Glu Glu Pro Ala Pro Cys Lys Asp Cys Gln Pro Leu
                 290
Cys Pro Pro Leu Thr Gly Ser Trp Glu Arg Gln Arg Gln Ala Ser
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Asp Leu Ala Ser Ser Gly Val Val Ser Leu Asp Glu Asp Glu Ala
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Glu Pro Glu Glu Gln
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<210> 34
<211> 25
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<222> 1-25
<223> Synthetic construct
<400> 34
tgtcctttgt cccagacttc tgtcc 25
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<222> 1-50
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<400> 35
ctggatgcta atgtgtccag taaatgatcc ccttatcccg tcgcgatgct 50
<210> 36
<211> 25
<212> DNA
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<220>
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<222> 1-25
<223> Synthetic construct.
<400> 36
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ttccactcaa tgaggtgagc cactc 25
<210> 37
<211> 23
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<222> 1-23
<223> Synthetic construct.
<400> 37
ggcgagccct aactatccag gag 23
<210> 38
<211> 39
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-39
<223> Synthetic construct.
ggagatcgct gcgctggcca ggtcctccct gcatggtat 39
<210> 39
<211> 22
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-22
<223> Synthetic construct.
<400> 39
ctgctgcaaa gcgagcctct tg 22
<210> 40
<211> 2084
<212> DNA
<213> Homo sapiens
<400> 40
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 ttttgtttcc ctggcaccct cctgctcagt gcgacattgt cacacttaac 100
 ccatctgttt tctctaatgc acgacagatt cctttcagac aggacaactg 150
 tgatatttca gttcctgatt gtaaatacct cctaagcctg aagcttctgt 200
 tactagccat tgtqagcttc agtttcttca tctgcaaaat gggcataata 250
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caatctattc ttgccacatc aagggattgt tattccttta aaaaaaaacc 300

aataccaaag aagcctacaa tgttggcctt agccaaaatt ctgttgattt 350 caacgttgtt ttattcactt ctatcgggga gccatggaaa agaaaatcaa 400 gacataaaca caacacagaa cattgcagaa gtttttaaaa caatggaaaa 450 taaacctatt tctttggaaa gtgaagcaaa cttaaactca gataaagaaa 500 atataaccac ctcaaatctc aaggcgagtc attcccctcc tttgaatcta 550 cccaacaaca gccacggaat aacagatttc tccagtaact catcagcaga 600 qcattctttq qqcaqtctaa aacccacatc taccatttcc acaagccctc 650 ccttgatcca tagctttgtt tctaaagtgc cttggaatgc acctatagca 700 gatgaagatc ttttgcccat ctcagcacat cccaatgcta cacctgctct 750 gtcttcagaa aacttcactt ggtctttggt caatgacacc gtgaaaactc 800 ctgataacag ttccattaca gttagcatcc tctcttcaga accaacttct 850 ccatctgtga cccccttgat agtggaacca agtggatggc ttaccacaaa 900 cagtgatagc ttcactgggt ttacccctta tcaagaaaaa acaactctac 950 agoctacctt aaaattcacc aataattcaa aactctttcc aaatacgtca 1000 gatccccaaa aagaaaatag aaatacagga atagtattcg gggccatttt 1050 aggtgctatt ctgggtgtct cattgcttac tcttgtgggc tacttgttgt 1100 gtggaaaaag gaaaacggat tcattttccc atcggcgact ttatgacgac 1150 agaaatgaac cagttctgcg attagacaat gcaccggaac cttatgatgt 1200 gagttttggg aattctagct actacaatcc aactttgaat gattcagcca 1250 tgccagaaag tgaagaaaat gcacgtgatg gcattcctat ggatgacata 1300 cctccacttc gtacttctgt atagaactaa cagcaaaaag gcgttaaaca 1350 gcaagtgtca tctacatcct agccttttga caaattcatc tttcaaaaagg 1400 ttacacaaaa ttactgtcac gtggattttg tcaaggagaa tcataaaagc 1450 aggagaccag tagcagaaat gtagacagga tgtatcatcc aaaggttttc 1500 tttcttacaa tttttggcca tcctgaggca tttactaagt agccttaatt 1550 tgtattttag tagtattttc ttagtagaaa atatttgtgg aatcagataa 1600 aactaaaaga tttcaccatt acagccctgc ctcataacta aataataaaa 1650 attattccac caaaaaattc taaaacaatg aagatgactc tttactgctc 1700 tgcctgaagc cctagtacca taattcaaga ttgcattttc ttaaatgaaa 1750

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<210> 41

<211> 334

<212> PRT

<213> Homo sapiens

<400> 41

Met Leu Ala Leu Ala Lys Ile Leu Leu Ile Ser Thr Leu Phe Tyr 1 5 10 15

Ser Leu Leu Ser Gly Ser His Gly Lys Glu Asn Gln Asp Ile Asn 20 25 30

Thr Thr Gln Asn Ile Ala Glu Val Phe Lys Thr Met Glu Asn Lys 35 40 45

Pro Ile Ser Leu Glu Ser Glu Ala Asn Leu Asn Ser Asp Lys Glu
50 55 60

Asn Ile Thr Thr Ser Asn Leu Lys Ala Ser His Ser Pro Pro Leu 65 70 75

Asn Leu Pro Asn Asn Ser His Gly Ile Thr Asp Phe Ser Ser Asn 80 85 90

Ser Ser Ala Glu His Ser Leu Gly Ser Leu Lys Pro Thr Ser Thr 95 100 105

Ile Ser Thr Ser Pro Pro Leu Ile His Ser Phe Val Ser Lys Val

Pro Trp Asn Ala Pro Ile Ala Asp Glu Asp Leu Leu Pro Ile Ser 125 130 135

Ala His Pro Asn Ala Thr Pro Ala Leu Ser Ser Glu Asn Phe Thr 140 145 150

Trp Ser Leu Val Asn Asp Thr Val Lys Thr Pro Asp Asn Ser Ser 155 160 165

Ile Thr Val Ser Ile Leu Ser Ser Glu Pro Thr Ser Pro Ser Val 170 175 180

Thr Pro Leu Ile Val Glu Pro Ser Gly Trp Leu Thr Thr Asn Ser 185 190 195

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Asp Ser Phe Thr Gly Phe Thr Pro Tyr Gln Glu Lys Thr Thr Leu
Gln Pro Thr Leu Lys Phe Thr Asn Asn Ser Lys Leu Phe Pro Asn
                215
Thr Ser Asp Pro Gln Lys Glu Asn Arg Asn Thr Gly Ile Val Phe
                230
Gly Ala Ile Leu Gly Ala Ile Leu Gly Val Ser Leu Leu Thr Leu
                                                         255
Val Gly Tyr Leu Leu Cys Gly Lys Arg Lys Thr Asp Ser Phe Ser
                                                         270
His Arg Arg Leu Tyr Asp Asp Arg Asn Glu Pro Val Leu Arg Leu
                275
Asp Asn Ala Pro Glu Pro Tyr Asp Val Ser Phe Gly Asn Ser Ser
                                                         300
                290
Tyr Tyr Asn Pro Thr Leu Asn Asp Ser Ala Met Pro Glu Ser Glu
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Glu Asn Ala Arg Asp Gly Ile Pro Met Asp Asp Ile Pro Pro Leu
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Arg Thr Ser Val

<210> 42 <211> 1594 <212> DNA

<213> Homo sapiens

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cecetacege egtgeaaaag gaggaggege ggeaagaegt ggaggeeete 150
etgageegea eggteagaae teagataetg aceggeaagg ageteegagt 200
tgccacecag gaaaaagagg geteetetgg gagatgtatg ettactetet 250
taggeettte atteatettg geaggaetta ttgttggtgg ageetgeatt 300
tacaagtaet teatgeeeaa gageaeeatt tacegtggag agatgtett 350
ttttgattet gaggateetg caaatteeet tegtggagga gageetaaet 400
teetgeetgt gaetgaggag getgaeatte gtgaggatga caacattgea 450
atcattgatg tgeetgteee eagtteete gatagtgaee etgetgetg 550
tatteatgae tttgaaaagg gaatgaetge ttacetggae ttgttgetgg 550

ggaactgcta tctgatgccc ctcaatactt ctattgttat gcctccaaaa 600 aatctggtag agctctttgg caaactggcg agtggcagat atctgcctca 650 aacttatgtg gttcgagaag acctagttgc tgtggaggaa attcgtgatg 700 ttagtaacct tggcatcttt atttaccaac tttgcaataa cagaaagtcc 750 ttccgccttc gtcgcagaga cctcttgctg ggtttcaaca aacgtgccat 800 tgataaatgc tggaagatta gacacttccc caacgaattt attgttgaga 850 ccaaqatctq tcaaqaqtaa qaqqcaacaq ataqaqtqtc cttqqtaata 900 agaagtcaga gatttacaat atgactttaa cattaaggtt tatgggatac 950 tcaagatatt tactcatgca tttactctat tgcttatgct ttaaaaaaaag 1000 gaaaaaaaaa aaaactacta accactgcaa gctcttgtca aattttagtt 1050 taattggcat tgcttgtttt ttgaaactga aattacatga gtttcatttt 1100 ttctttgcat ttatagggtt tagatttctg aaagcagcat gaatatatca 1150 cctaacatcc tgacaataaa ttccatccgt tgtttttttt gtttgtttgt 1200 tttttctttt cctttaagta agctctttat tcatcttatg gtggagcaat 1250 tttaaaattt gaaatatttt aaattgtttt tgaacttttt gtgtaaaata 1300 tatcagatct caacattgtt ggtttctttt gtttttcatt ttgtacaact 1350 ttcttgaatt tagaaattac atctttgcag ttctgttagg tgctctgtaa 1400 ttaacctgac ttatatgtga acaattttca tgagacagtc atttttaact 1450 aatgcagtga ttctttctca ctactatctg tattgtggaa tgcacaaaat 1500 tgtgtaggtg ctgaatgctg taaggagttt aggttgtatg aattctacaa 1550 

<210> 43

<211> 263

<212> PRT

<213> Homo sapiens

<400> 43

Met Val Lys Ile Ala Phe Asn Thr Pro Thr Ala Val Gln Lys Glu
1 5 10 15

Glu Ala Arg Gln Asp Val Glu Ala Leu Leu Ser Arg Thr Val Arg

Thr Gln Ile Leu Thr Gly Lys Glu Leu Arg Val Ala Thr Gln Glu
35 40 45

Lys Glu Gly Ser Ser Gly Arg Cys Met Leu Thr Leu Leu Gly Leu

				50					55					60
Ser	Phe	Ile	Leu	Ala 65	Gly	Leu	Ile	Val	Gly 70	Gly	Ala	Cys	Ile	Tyr 75
Lys	Tyr	Phe	Met	Pro 80	Lys	Ser	Thr	Ile	Tyr 85	Arg	Gly	Glu	Met	Cys 90
Phe	Phe	Asp	Ser	Glu 95	Asp	Pro	Ala	Asn	Ser 100	Leu	Arg	Gly	Gly	Glu 105
Pro	Asn	Phe	Leu	Pro 110	Val	Thr	Glu	Glu	Ala 115	Asp <sub>.</sub>	Ile	Arg	Glu	Asp 120
Asp	Asn	Ile	Ala	Ile 125	Ile	Asp	Val	Pro	Val 130	Pro	Ser	Phe	Ser	Asp 135
Ser	Asp	Pro	Ala	Ala 140	Ile	Ile	His	Asp	Phe 145	Glu	Lys	Gly	Met	Thr 150
Ala	Tyr	Leu	Asp	Leu 155	Leu	Leu	Gly	Asn	Cys 160	Tyr	Leu	Met	Pro	Leu 165
Asn	Thr	Ser	Ile	Val 170	Met	Pro	Pro	Lys	Asn 175	Leu	Val	Glu	Leu	Phe 180
Gly	Lys	Leu	Ala	Ser 185	Gly	Arg	Tyr	Leu	Pro 190	Gln	Thr	Tyr	Val	Val 195
Arg	Glu	Asp	Leu	Val 200	Ala	Val	Glu	Glu	Ile 205	Arg	Asp	Val	Ser	Asn 210
Leu	Gly	Ile	Phe	Ile 215	Tyr	Gln	Leu	Суз	Asn 220	Asn	Arg	Lys	Ser	Phe 225
Arg	Leu	Arg	Arg	Arg 230	Asp	Leu	Leu	Leu	Gly 235	Phe	Asn	Lys	Arg	Ala 240
Ile	Asp	Lys	Cys	Trp 245	Lys	Ile	Arg	His	Phe 250	Pro	Asn	Glu	Phe	Ile 255
Val	Glu	Thr	Lys	Ile 260	Cys	Gln	Glu							
<2103 <2113 <2123 <2133	> 24 > DN2		cial											
<2203 <2213 <2223	> Ar		cial	seq	uence	е								

<223> Synthetic construct.

<400> 44
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<210> 45

<211> 20 <212> DNA

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<213> Artificial
<220>
<221> Artificial sequence
<222> 1-20
<223> Synthetic construct.
<400> 45
gggaactgct atctgatgcc 20
<210> 46
<211> 26
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-26
<223> Synthetic construct.
<400> 46
caggatetee tettgeagte tgeage 26
<210> 47
<211> 28
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-28
<223> Synthetic construct.
<400> 47
cttctcgaac cacataagtt tgaggcag 28
<210> 48
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-25
<223> Synthetic construct.
<400> 48
cacgattece tecacageaa etggg 25
<210> 49
<211> 1969
<212> DNA
<213> Homo sapiens
<400> 49
 ggaggagga gggcgggcag gcgccagccc agagcagccc cgggcaccag 50
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<210> 50

<211> 283

<212> PRT

<213> Homo sapiens

<400> 50

Met Val Ser Ala Ala Ala Pro Ser Leu Leu Ile Leu Leu Leu 1 5 10 15

Leu Leu Gly Ser Val Pro Ala Thr Asp Ala Arg Ser Val Pro Leu 20 25 30

Lys Ala Thr Phe Leu Glu Asp Val Ala Gly Ser Gly Glu Ala Glu 35 40 45

Gly Ser Ser Ala Ser Ser Pro Ser Leu Pro Pro Pro Trp Thr Pro 50 55 60

Ala Leu Ser Pro Thr Ser Met Gly Pro Gln Pro Thr Thr Leu Gly 65 70 75

Gly Pro Ser Pro Pro Thr Asn Phe Leu Asp Gly Ile Val Asp Phe  $80\,$   $85\,$  90

Phe Arg Gln Tyr Val Met Leu Ile Ala Val Val Gly Ser Leu Ala 95 100 105

Phe Leu Leu Met Phe Ile Val Cys Ala Ala Val Ile Thr Arg Gln 110 115 120

Lys Gln Lys Ala Ser Ala Tyr Tyr Pro Ser Ser Phe Pro Lys Lys 125 130 135

Lys Tyr Val Asp Gln Ser Asp Arg Ala Gly Gly Pro Arg Ala Phe 140 145 150

Ser Glu Val Pro Asp Arg Ala Pro Asp Ser Arg Pro Glu Glu Ala 155 160 165

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Leu Asp Ser Ser Arg Gln Leu Gln Ala Asp Ile Leu Ala Ala Thr
Gln Asn Leu Lys Ser Pro Thr Arg Ala Ala Leu Gly Gly Gly Asp
                185
Gly Ala Arg Met Val Glu Gly Arg Gly Ala Glu Glu Glu Lys
                200
                                    205
                                                        210
Gly Ser Gln Glu Gly Asp Gln Glu Val Gln Gly His Gly Val Pro
                215
                                                        225
Val Glu Thr Pro Glu Ala Gln Glu Glu Pro Cys Ser Gly Val Leu
                230
                                                        240
Glu Gly Ala Val Ala Gly Glu Gly Gln Gly Glu Leu Glu Gly
Ser Leu Leu Leu Ala Gln Glu Ala Gln Gly Pro Val Gly Pro Pro
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Glu Ser Pro Cys Ala Cys Ser Ser Val His Pro Ser Val
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<210> 51

<211> 1734

<212> DNA

<213> Homo sapiens

<400> 51
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gcacagagac gcagagcaag ggcggcaagg aggagaccct ggtgggagga 150
agacactctg gagagagagg gggctgggca gagatgaagt tccaggggcc 200
cctggcctgc ctcctgctgg ccctctgcct gggcagtggg gaggctggcc 250
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aagggaccag atgctttggg caacagggtc ggggaagcag cccatgctct 500
gggaaacact gggcacgaga ttggcagaca ggcagaagat gtcattcgac 550
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ggtgcttggg aaacttctgg aggccatggc atcttggct ctcaaggtgg 650
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tccacggata ccccggaaac tcagcaggca gctttggaat gaatcctcag 750 ggagctccct ggggtcaagg aggcaatgga gggccaccaa actttgggac 800 caacactcag ggagctgtgg cccagcctgg ctatggttca gtgagagcca 850 gcaaccagaa tgaagggtgc acgaatcccc caccatctgg ctcaggtgga 900 ggctccagca actctggggg aggcagcggc tcacagtcgg gcagcagtgg 950 cagtggcagc aatggtgaca acaacaatgg cagcagcagt ggtggcagca 1000 gcagtggcag cagcagtggc agcagcagtg gcggcagcag tggcggcagc 1050 agtggtggca gcagtggcaa cagtggtggc agcagaggtg acagcggcag 1100 tgagtcctcc tggggatcca gcaccggctc ctcctccggc aaccacggtg 1150 ggagcggcgg aggaaatgga cataaacccg ggtgtgaaaa gccagggaat 1200 gaagcccgcg ggagcgggga atctgggatt cagggcttca gaggacaggg 1250 agtttccagc aacatgaggg aaataagcaa agagggcaat cgcctccttg 1300 gaggctctgg agacaattat cgggggcaag ggtcgagctg gggcagtgga 1350 ggaggtgacg ctgttggtgg agtcaatact gtgaactctg agacgtctcc 1400 tgggatgttt aactttgaca ctttctggaa gaattttaaa tccaagctgg 1450 gtttcatcaa ctgggatgcc ataaacaagg accagagaag ctctcgcatc 1500 ccgtgacctc cagacaagga gccaccagat tggatgggag cccccacact 1550 ccctccttaa aacaccaccc tctcatcact aatctcagcc cttgcccttg 1600 aaaaaaaaaa aaaaaaaaaa aaaaaaaaa aaaa 1734

<210> 52

<211> 440

<212> PRT

<213> Homo sapiens

<400> 52

Met Lys Phe Gln Gly Pro Leu Ala Cys Leu Leu Leu Ala Leu Cys

1 5 10 15

Leu Gly Ser Gly Glu Ala Gly Pro Leu Gln Ser Gly Glu Glu Ser 20 25 30

Thr Gly Thr Asn Ile Gly Glu Ala Leu Gly His Gly Leu Gly Asp 35 40 45

Ala Leu Ser Glu Gly Val Gly Lys Ala Ile Gly Lys Glu Ala Gly

				50					55					60
Gly	Ala	Ala	Gly	Ser 65	Lys	Val	Ser	Glu	Ala 70	Leu	Gly	Gln	Gly	Thr 75
Arg	Glu	Ala	Val	Gly 80	Thr	Gly	Val	Arg	Gln 85	Val	Pro	Gly	Phe	Gly 90
Ala	Ala	Asp	Ala	Leu 95	Gly	Asn	Arg	Val	Gly 100	Glu	Ala	Ala	His	Ala 105
Leu	Gly	Asn	Thr	Gly 110	His	Glu	Ile	Gly	Arg 115	Gln	Ala	Glu	Asp	Val 120
Ile	Arg	His	Gly	Ala 125	Asp	Ala	Val	Arg	Gly 130	Ser	Trp	Gln	Gly	Val 135
Pro	Gly	His	Ser	Gly 140	Ala	Trp	Glu	Thr	Ser 145	Gly	Gly	His	Gly	Ile 150
Phe	Gly	Ser	Gln	Gly 155	Gly	Leu	Gly	Gly	Gln 160	Gly	Gln	Gly	Asn	Pro 165
Gly	Gly	Leu	Gly	Thr 170	Pro	Trp	Val	His	Gly 175	Tyr	Pro	Gly	Asn	Ser 180
Ala	Gly	Ser	Phe	Gly 185	Met	Asn	Pro	Gln	Gly 190	Ala	Pro	Trp	Gly	Gln 195
Gly	Gly	Asn	Gly	Gly 200	Pro	Pro	Asn	Phe	Gly 205	Thr	Asn	Thr	Gln	Gly 210
Ala	Val	Ala	Gln	Pro 215	Gly	Tyr	Gly	Ser	Val 220	Arg	Ala	Ser	Asn	Gln 225
Asn	Glu	Gly	Cys	Thr 230	Asn	Pro	Pro	Pro	Ser 235	Gly	Ser	Gly	Gly	Gly 240
Ser	Ser	Asn	Ser	Gly 245	Gly	Gly	Ser	Gly	Ser 250	Gln	Ser	Gly	Ser	Ser 255
Gly	Ser	Gly	Ser	Asn 260	Gly	Asp	Asn	Asn	Asn 265	Gly	Ser	Ser	Ser	Gly 270
Gly	Ser	Ser	Ser	Gly 275	Ser	Ser	Ser	Gly	Ser 280	Ser	Ser	Gly	Gly	Ser 285
Ser	Gly	Gly	Ser	Ser 290	Gly	Gly	Ser	Ser	Gly 295	Asn	Ser	Gly	Gly	Ser 300
Arg	Gly	Asp	Ser	Gly 305	Ser	Glu	Ser	Ser	Trp 310	Gly	Ser	Ser	Thr	Gly 315
Ser	Ser	Ser	Gly	Asn 320	His	Gly	Gly	Ser	Gly 325	Gly	Gly	Asn	Gly	His 330
Lys	Pro	Gly	Суѕ	Glu 335	Lys	Pro	Gly	Asn	Glu 340	Ala	Arg	Gly	Ser	Gly 345

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Glu Ser Gly Ile Gln Gly Phe Arg Gly Gln Gly Val Ser Ser Asn 350

Met Arg Glu Ile Ser Lys Glu Gly Asn Arg Leu Leu Gly Gly Ser 375

Gly Asp Asn Tyr Arg Gly Gln Gly Ser Ser Trp Gly Ser Gly 390

Gly Asp Ala Val Gly Gly Val Asn Thr Val Asn Ser Glu Thr Ser 400

Pro Gly Met Phe Asn Phe Asp Thr Phe Trp Lys Asn Phe Lys Ser 420

Lys Leu Gly Phe Ile Asn Trp Asp Ala Ile Asn Lys Asp Gln Arg 435
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Ser Ser Arg Ile Pro

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<213> Homo sapiens

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<sup>&</sup>lt;210> 54

<sup>&</sup>lt;211> 280

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

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<210> 55 <211> 2401

<212> DNA

<213> Homo sapiens

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<sup>&</sup>lt;210> 56

<sup>&</sup>lt;211> 299

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 56

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Asn Glu Val Phe His Tyr Gly Ser Leu Arg Gly Arg Ser Arg Arg Pro Val Asn Leu Lys Lys Trp Ser Ile Thr Asp Gly Tyr Val Pro Ile Leu Gly Asn Lys Thr Leu Pro Ser Arg Cys His Gln Cys Val Ile Val Ser Ser Ser His Leu Leu Gly Thr Lys Leu Gly Pro Glu Ile Glu Arg Ala Glu Cys Thr Ile Arg Met Asn Asp Ala Pro 100 Thr Thr Gly Tyr Ser Ala Asp Val Gly Asn Lys Thr Thr Tyr Arg 110 115 Val Val Ala His Ser Ser Val Phe Arg Val Leu Arg Arg Pro Gln Glu Phe Val Asn Arg Thr Pro Glu Thr Val Phe Ile Phe Trp Gly 145 Pro Pro Ser Lys Met Gln Lys Pro Gln Gly Ser Leu Val Arg Val 155 Ile Gln Arg Ala Gly Leu Val Phe Pro Asn Met Glu Ala Tyr Ala Val Ser Pro Gly Arg Met Arg Gln Phe Asp Asp Leu Phe Arg Gly 185 Glu Thr Gly Lys Asp Arg Glu Lys Ser His Ser Trp Leu Ser Thr Gly Trp Phe Thr Met Val Ile Ala Val Glu Leu Cys Asp His Val 215 His Val Tyr Gly Met Val Pro Pro Asn Tyr Cys Ser Gln Arg Pro Arg Leu Gln Arg Met Pro Tyr His Tyr Tyr Glu Pro Lys Gly Pro 245 Asp Glu Cys Val Thr Tyr Ile Gln Asn Glu His Ser Arg Lys Gly 260 Asn His His Arg Phe Ile Thr Glu Lys Arg Val Phe Ser Ser Trp 275 285 Ala Gln Leu Tyr Gly Ile Thr Phe Ser His Pro Ser Trp Thr 290

<sup>&</sup>lt;210> 57

<sup>&</sup>lt;211> 4277

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

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<212> PRT <213> Homo sapiens

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Ile	Asp	Thr	Thr	Ser 290	Glu	Glu	Asp	Ser	Gly 295	Thr	Tyr	Arg	Cys	Met 300
Ala	Asp	Asn	Gly	Val 305	Gly	Gln	Pro	Gly	Ala 310	Ala	Val	Ile	Leu	Tyr 315
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Gln	Leu	Val	Ile	Pro 335	Trp	Gly	Gln	Ser	Ala 340	Lys	Leu	Thr	Cys	Glu 345
Val	Arg	Gly	Asn	Pro 350	Pro	Pro	Ser	Val	Leu 355	Trp	Leu	Arg	Asn	Ala 360
Val	Pro	Leu	Ile	Ser 365	Ser	Gln	Arg	Leu	Arg 370	Leu	Ser	Arg	Arg	Ala 375
Leu	Arg	Val	Leu	Ser 380	Met	Gly	Pro	Glu	Asp 385	Glu	Gly	Val	Tyr	Gln 390
Cys	Met	Ala	Glu	Asn 395	Glu	Val	Gly	Ser	Ala 400	His	Ala	Val	Val	Gln 405
Leu	Arg	Thr	Ser	Arg 410	Pro	Ser	Ile	Thr	Pro 415	Arg	Leu	Trp	Gln	Asp 420
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Pro	Pro	Thr	Ser	Val 455	Gly	Pro	Ala	Ser	Pro 460	Lys	Cys	Pro	Gly	Glu 465
Lys	Gly	Gln	Gly	Ala 470	Pro	Ala	Glu	Ala	Pro 475	Ile	Ile	Leu	Ser	Ser 480
Pro	Arg	Thr	Ser	Lys 485	Thr	Asp	Ser	Tyr	Glu 490	Leu	Val	Trp	Arg	Pro 495
Arg	His	Glu	Gly	Ser 500	Gly	Arg	Ala	Pro	Ile 505	Leu	Tyr	Tyr	Val	Val 510
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Ala	Gly	Glu	Gly	Gln	Thr	Ala	Met	Val	Thr	Phe	Arg	Thr	Gly	Arg

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Arg Asp	Asp	Pro	Gly 590	Ala	Ser	Pro	Gln	Ser 595	Ser	Ser	Gln	Pro	Asp 600
His Gly	Arg	Leu	Ser 605	Pro	Pro	Glu	Ala	Pro 610	Asp	Arg	Pro	Thr	Ile 615
Ser Thr	Ala	Ser	Glu 620	Thr	Ser	Val	Tyr	Val 625	Thr	Trp	Ile	Pro	Arg 630
Gly Asn	Gly	Gly	Phe 635	Pro	Ile	Gln	Ser	Phe 640	Arg	Val	Glu	Tyr	Lys 645
Lys Leu	Lys	Lys	Val 650	Gly	Asp	Trp	Ile	Leu 655	Ala	Thr	Ser	Ala	Ile 660
Pro Pro	Ser	Arg	Leu 665	Ser	Val	Glu	Ile	Thr 670	Gly	Leu	Glu	Lys	Gly 675
Thr Ser	Tyr	Lys	Phe 680	Arg	Val	Arg	Ala	Leu 685	Asn	Met	Leu	Gly	Glu 690
Ser Glu	Pro	Ser	Ala 695	Pro	Ser	Arg	Pro	Tyr 700	Val	Val	Ser	Gly	Tyr 705
Ser Gly	Arg	Val	Tyr 710	Glu	Arg	Pro	Val	Ala 715	Gly	Pro	Tyr	Ile	Thr 720
Phe Thr	Asp	Ala	Val 725	Asn	Glu	Thr	Thr	Ile 730	Met	Leu	Lys	Trp	Met 735
Tyr Ile	Pro	Ala	Ser 740	Asn	Asn	Asn	Thr	Pro 745	Ile	His	Gly	Phe	Tyr 750
Ile Tyr	Tyr	Arg	Pro 755	Thr	Asp	Ser	Asp	Asn 760	Asp	Ser	Asp	Tyr	Lys 765
Lys Asp	Met	Val	Glu 770	Gly	Asp	Lys	Tyr	Trp 775	His	Ser	Ile	Ser	His 780
Leu Gln	Pro	Glu	Thr 785	Ser	Tyr	Asp	Ile	Lys 790	Met	Gln	Cys	Phe	Asn 795
Glu Gly	Gly	Glu	Ser 800	Glu	Phe	Ser	Asn	Val 805	Met	Ile	Cys	Glu	Thr 810
Lys Ala	Arg	Lys	Ser 815	Ser	Gly	Gln	Pro	Gly 820	Arg	Leu	Pro	Pro	Pro 825
Thr Leu	Ala	Pro	Pro 830	Gln	Pro	Pro	Leu	Pro 835	Glu	Thr	Ile	Glu	Arg 840
Pro Val	Gly	Thr	Gly 845	Ala	Met	Val	Ala	Arg 850	Ser	Ser	Asp	Leu	Pro 855

Tyr Leu Ile Val Gly Val Val Leu Gly Ser Ile Val Leu Ile Ile 860 Val Thr Phe Ile Pro Phe Cys Leu Trp Arg Ala Trp Ser Lys Gln 875 Lys His Thr Thr Asp Leu Gly Phe Pro Arg Ser Ala Leu Pro Pro 895 890 Ser Cys Pro Tyr Thr Met Val Pro Leu Gly Gly Leu Pro Gly His Gln Ala Ser Gly Gln Pro Tyr Leu Ser Gly Ile Ser Gly Arg Ala Cys Ala Asn Gly Ile His Met Asn Arg Gly Cys Pro Ser Ala Ala Val Gly Tyr Pro Gly Met Lys Pro Gln Gln His Cys Pro Gly Glu Leu Gln Gln Ser Asp Thr Ser Ser Leu Leu Arg Gln Thr His Leu Gly Asn Gly Tyr Asp Pro Gln Ser His Gln Ile Thr Arg Gly Pro Lys Ser Ser Pro Asp Glu Gly Ser Phe Leu Tyr Thr Leu Pro 1000 Asp Asp Ser Thr His Gln Leu Leu Gln Pro His His Asp Cys Cys 1015 1010 Gln Arg Gln Glu Gln Pro Ala Ala Val Gly Gln Ser Gly Val Arg 1025 1030 Arg Ala Pro Asp Ser Pro Val Leu Glu Ala Val Trp Asp Pro Pro 1045 1040 Phe His Ser Gly Pro Pro Cys Cys Leu Gly Leu Val Pro Val Glu 1060 Glu Val Asp Ser Pro Asp Ser Cys Gln Val Ser Gly Gly Asp Trp 1080 1070 1075 Cys Pro Gln His Pro Val Gly Ala Tyr Val Gly Gln Glu Pro Gly 1085 1090 Met Gln Leu Ser Pro Gly Pro Leu Val Arg Val Ser Phe Glu Thr 1105 Pro Pro Leu Thr Ile 1115 <210> 59

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<400> 60
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<210> 61
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<222> 1-42
<223> Synthetic construct.
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<213> Homo sapiens
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 tgctgctcct gctactgctg ctgctgctgc ggcagcccgt aacccgcgcg 200
 gagaccacgc cgggcgcccc cagagccctc tccacgctgg gctcccccag 250
 cetetteace aegeegggtg teceeagege ecteactace ecaggeetea 300
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ctacgccagg cacccccaaa accctggacc ttcggggtcg cgcgcaggcc 350

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<sup>&</sup>lt;210> 63

<sup>&</sup>lt;211> 487

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

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<222> 196, 386
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Pro Ser Ala Leu Thr Thr Pro Gly Leu Thr Thr Pro Gly Thr Pro
Lys Thr Leu Asp Leu Arg Gly Arg Ala Gln Ala Leu Met Arg Ser
Phe Pro Leu Val Asp Gly His Asn Asp Leu Pro Gln Val Leu Arg
Gln Arg Tyr Lys Asn Val Leu Gln Asp Val Asn Leu Arg Asn Phe
                                   115
Ser His Gly Gln Thr Ser Leu Asp Arg Leu Arg Asp Gly Leu Val
                                                      135
Gly Ala Gln Phe Trp Ser Ala Ser Val Ser Cys Gln Ser Gln Asp
Gln Thr Ala Val Arg Leu Ala Leu Glu Gln Ile Asp Leu Ile His
                155
Arg Met Cys Ala Ser Tyr Ser Glu Leu Glu Leu Val Thr Ser Ala
Glu Gly Leu Asn Ser Ser Gln Lys Leu Ala Cys Leu Ile Gly Val
                185
Xaa Gly Gly His Ser Leu Asp Ser Ser Leu Ser Val Leu Arg Ser
Phe Tyr Val Leu Gly Val Arg Tyr Leu Thr Leu Thr Phe Thr Cys
                215
Ser Thr Pro Trp Ala Glu Ser Ser Thr Lys Phe Arg His His Met
Tyr Thr Asn Val Ser Gly Leu Thr Ser Phe Gly Glu Lys Val Val
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Val	Ile	Phe	Ser	His 290	Ser	Ala	Ala	Arg	Ala 295	Val	Cys	Asp	Asn	Leu 300
Leu	Asn	Val	Pro	Asp 305	Asp	Ile	Leu	Gln	Leu 310	Leu	Lys	Asn	Gly	Gly 315
Ile	Val	Met	Val	Thr 320	Leu	Ser	Met	Gly	Val 325	Leu	Gln	Суз	Asn	Leu 330
Leu	Ala	Asn	Val	Ser 335	Thr	Val	Ala	Asp	His 340	Phe	Asp	His	Ile	Arg 345
Ala	Val	Ile	Gly	Ser 350	Glu	Phe	Ile	Gly	Ile 355	Gly	Gly	Asn	Tyr	Asp 360
Gly	Thr	Gly	Arg	Phe 365	Pro	Gln	Gly	Leu	Glu 370	Asp	Val	Ser	Thr	Tyr 375
Pro	Val	Leu	Ile	Glu 380	Glu	Leu	Leu	Ser	Arg 385	Xaa	Trp	Ser	Glu	Glu 390
Glu	Leu	Gln	Gly	Val 395	Leu	Arg	Gly	Asn	Leu 400	Leu	Arg	Val	Phe	Arg 405
Gln	Val	Glu	Lys	Val 410	Arg	Glu	Glu	Ser	Arg 415	Ala	Gln	Ser	Pro	Val 420
Glu	Ala	Glu	Phe	Pro 425	Tyr	Gly	Gln	Leu	Ser 430	Thr	Ser	Cys	His	Ser 435
His	Leu	Val	Pro	Gln 440	Asn	Gly	His	Gln	Ala 445	Thr	His	Leu	Glu	Val 450
Thr	Lys	Gln	Pro	Thr 455	Asn	Arg	Val	Pro	Trp 460	Arg	Ser	Ser	Asn	Ala 465
Ser	Pro	Tyr	Leu	Val 470	Pro	Gly	Leu	Val	Ala 475	Ala	Ala	Thr	Ile	Pro 480
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<210> 68

<211> 183

<212> PRT

<213> Homo sapiens

<400> 68

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Pro Pro Ala Glu Ala Asn Lys Ser Ser Glu Asp Ile Arg Cys Lys 20 25 30

Cys Ile Cys Pro Pro Tyr Arg Asn Ile Ser Gly His Ile Tyr Asn
35 40 45

Gln Asn Val Ser Gln Lys Asp Cys Asn Cys Leu His Val Val Glu  $50 \,$   $\,$  55  $\,$  60

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Pro Met Pro Val Pro Gly His Asp Val Glu Ala Tyr Cys Leu Leu 75

Cys Glu Cys Arg Tyr Glu Glu Arg Ser Thr Thr Thr Ile Lys Val 80

Ile Ile Val Ile Tyr Leu Ser Val Val Gly Ala Leu Leu Leu Tyr 105

Met Ala Phe Leu Met Leu Val Asp Pro Leu Ile Arg Lys Pro Asp 120

Ala Tyr Thr Glu Gln Leu His Asn Glu Glu Glu Asn Glu Asp Ala 135

Arg Ser Met Ala Ala Ala Ala Ala Ala Ser Leu Gly Gly Pro Arg Ala 150

Asn Thr Val Leu Glu Gln Arg Val Glu Gly Ala Gln Gln Arg Trp Lys 165

Leu Gln Val Gln Glu Gln Arg Lys Thr Val Phe Asp Arg His Lys 180
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Met Leu Ser

<210> 69 <211> 3170 <212> DNA

<213> Homo sapiens

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tccctttgca ttcccacccc tccgggcttt gcgtcttcct ggggaccccc 200
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<210> 70

<211> 259

<212> PRT

<213> Homo sapiens

<400> 70

Met Ala Ala Leu Met Arg Ser Lys Asp Ser Ser Cys Cys Leu Leu 1 5 10 15

Leu Leu Ala Ala Val Leu Met Val Glu Ser Ser Gln Ile Gly Ser  $20 \hspace{1cm} 25 \hspace{1cm} 30$ 

Ser Arg Ala Lys Leu Asn Ser Ile Lys Ser Ser Leu Gly Glu 35 40 45

Thr Pro Gly Gln Ala Ala Asn Arg Ser Ala Gly Met Tyr Gln Gly Leu Ala Phe Gly Gly Ser Lys Lys Gly Lys Asn Leu Gly Gln Ala Tyr Pro Cys Ser Ser Asp Lys Glu Cys Glu Val Gly Arg Tyr Cys His Ser Pro His Gln Gly Ser Ser Ala Cys Met Val Cys Arg Arg Lys Lys Lys Arg Cys His Arg Asp Gly Met Cys Cys Pro Ser Thr 115 120 Arg Cys Asn Asn Gly Ile Cys Ile Pro Val Thr Glu Ser Ile Leu 130 Thr Pro His Ile Pro Ala Leu Asp Gly Thr Arg His Arg Asp Arg Asn His Gly His Tyr Ser Asn His Asp Leu Gly Trp Gln Asn Leu Gly Arg Pro His Thr Lys Met Ser His Ile Lys Gly His Glu Gly Asp Pro Cys Leu Arg Ser Ser Asp Cys Ile Glu Gly Phe Cys Cys Ala Arg His Phe Trp Thr Lys Ile Cys Lys Pro Val Leu His Gln Gly Glu Val Cys Thr Lys Gln Arg Lys Lys Gly Ser His Gly Leu Glu Ile Phe Gln Arg Cys Asp Cys Ala Lys Gly Leu Ser Cys Lys Val Trp Lys Asp Ala Thr Tyr Ser Ser Lys Ala Arg Leu His Val 255

Cys Gln Lys Ile

## <400> 71

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acateacgtt tttaaaaatt gatttettea aatteatgge aaatatttee 150
etteeettta acttettatg teagaatgag gaaggatage tgeatttatt 200

<sup>&</sup>lt;210> 71

<sup>&</sup>lt;211> 1809

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

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<210> 72

<211> 363

<212> PRT

<213> Homo sapiens

<400> 72

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Cys Ser Phe Ile Pro Leu Leu Lys Ser Ser Val Leu Gly Ser Gly 20 25 30

Phe Gly Glu Leu Ala Pro Pro Lys Met Ala Asn Ile Thr Ser Ser 35 40 45

Gln Ile Leu Asp Gln Leu Lys Ala Pro Ser Leu Gly Gln Phe Thr
50 55 60

Thr Thr Pro Ser Thr Gln Gln Asn Ser Thr Ser His Pro Thr Thr 65 70 75

Thr Thr Ser Trp Asp Leu Lys Pro Pro Thr Ser Gln Ser Ser Val 80 85 90

Leu Ser His Leu Asp Phe Lys Ser Gln Pro Glu Pro Ser Pro Val 95 100 105

Leu Ser Gln Leu Ser Gln Arg Gln Gln His Gln Ser Gln Ala Val 110 115 120

Thr Val Pro Pro Pro Gly Leu Glu Ser Phe Pro Ser Gln Ala Lys 125 130 135

Leu Arg Glu Ser Thr Pro Gly Asp Ser Pro Ser Thr Val Asn Lys 140 145 150

Leu Leu Gln Leu Pro Ser Thr Thr Ile Glu Asn Ile Ser Val Ser 155 160 165

Val His Gln Pro Gln Pro Lys His Ile Lys Leu Ala Lys Arg Arg 170 175 180

Ile Pro Pro Ala Ser Lys Ile Pro Ala Ser Ala Val Glu Met Pro
185 190 195

Gly Ser Ala Asp Val Thr Gly Leu Asn Val Gln Phe Gly Ala Leu 200 205 210

Glu Phe Gly Ser Glu Pro Ser Leu Ser Glu Phe Gly Ser Ala Pro 215 220 225

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Ser Ser Glu Asn Ser Asn Gln Ile Pro Ile Ser Leu Tyr Ser Lys
                 230
                                     235
 Ser Leu Ser Glu Pro Leu Asn Thr Ser Leu Ser Met Thr Ser Ala
                 245
 Val Gln Asn Ser Thr Tyr Thr Thr Ser Val Ile Thr Ser Cys Ser
                 260
                                     265
 Leu Thr Ser Ser Ser Leu Asn Ser Ala Ser Pro Val Ala Met Ser
                 275
 Ser Ser Tyr Asp Gln Ser Ser Val His Asn Arg Ile Pro Tyr Gln
 Ser Pro Val Ser Ser Ser Glu Ser Ala Pro Gly Thr Ile Met Asn
 Gly His Gly Gly Gly Arg Ser Gln Gln Thr Leu Asp Ser Lys Tyr
 Ser Ser Lys Leu Leu Ser Trp Leu Val Pro Thr Lys Gln Arg
Lys Arg Ile Ala His Val Met Trp Lys Thr Pro Val Gly Gln Trp
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Leu Ile Arg
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<222> 1-22
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 tgcactcagc ggtggaggag acggacgcgg ggctgtacac ctgcaacctg 150
 caccatcact actgccacct ctacgagage ctggccgtcc gcctggaggt 200
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 ctgggaccgg cagccgccg gggtcccgca cgaccgcgcg gaccgcctgc 400
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 cgcgaccgcg tggctgtggg cgcggatgcc tttgagcgcg gtgacttctc 500
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gccacaacgt catcaatgtc atcgtccccg agagccgagc ccacttcttc 750
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gctagattac aaaaacaaca tcctgaagga gagggcggag ctggcccaca 1000
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gccccctgcc tgccaagtac atcgacctag acaaagggtt ccggaaggag 1050

aactgcaaat agggaggccc tgggctcctg gctgggccag cagctgcacc 1100 tetectgtet gtgeteeteg gggeatetee tgatgeteeg gggeteacee 1150 cccttccagc ggctggtccc gctttcctgg aatttggcct gggcgtatgc 1200 agaggccgcc tccacacccc tcccccaggg gcttggtggc agcatagccc 1250 ccacccetge ggeetttget caegggtgge cetgeceaec eetggeacaa 1300 ccaaaatccc actgatgccc atcatgccct cagacccttc tgggctctgc 1350 ccgctggggg cctgaagaca ttcctggagg acactcccat cagaacctgg 1400 cagececaaa actggggtea geeteaggge aggagteeca eteeteeagg 1450 gctctgctcg tccggggctg ggagatgttc ctggaggagg acactcccat 1500 cagaacttgg cagccttgaa gttggggtca gcctcggcag gagtcccact 1550 cctcctgggg tgctgcctgc caccaagagc tccccacct gtaccaccat 1600 gtgggactcc aggcaccatc tgttctcccc agggacctgc tgacttgaat 1650 gccagccctt gctcctctgt gttgctttgg gccacctggg gctgcacccc 1700 etgecettte tetgececat cectacecta geettgetet cagecacett 1750 gatagtcact gggctccctg tgacttctga ccctgacacc cctcccttgg 1800 actetgeetg ggetggagte tagggetggg getacatttg gettetgtae 1850 tggctgagga caggggaggg agtgaagttg gtttggggtg gcctgtgttg 1900 ccacteteag caccecacat ttgcatetge tggtggacet gecaccatea 1950 caataaagtc cccatctgat ttttaaaaaaa aaaaaaaaa 1989

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<211> 341

<212> PRT

<213> Homo sapiens

<400> 77

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Ala Gly Leu Tyr Thr Cys Asn Leu His His His Tyr Cys His Leu
35 40 45

Tyr Glu Ser Leu Ala Val Arg Leu Glu Val Thr Asp Gly Pro Pro 50 55 60

Ala Thr Pro Ala Tyr Trp Asp Gly Glu Lys Glu Val Leu Ala Val
65 70 75

Ala	Arg	Gly	Ala	Pro 80	Ala	Leu	Leu	Thr	Cys 85	Val	Asn	Arg	Gly	His 90
Val	Trp	Thr	Asp	Arg 95	His	Val	Glu	Glu	Ala 100	Gln	Gln	Val	Val	His 105
Trp	Asp	Arg	Gln	Pro 110	Pro	Gly	Val	Pro	His 115	Asp	Arg	Ala	Asp	Arg 120
Leu	Leu	Asp	Leu	Tyr 125	Ala	Ser	Gly	Glu	Arg 130	Arg	Ala	Tyr	Gly	Pro 135
Leu	Phe	Leu	Arg	Asp 140	Arg	Val	Ala	Val	Gly 145	Ala	Asp	Ala	Phe	Glu 150
Arg	Gly	Asp	Phe	Ser 155	Leu	Arg	Ile	Glu	Pro 160	Leu	Glu	Val	Ala	Asp 165
Glu	Gly	Thr	Tyr	Ser 170	Суз	His	Leu	His	His 175	His	Tyr	Cys	Gly	Leu 180
His	Glu	Arg	Arg	Val 185	Phe	His	Leu	Thr	Val 190	Ala	Glu	Pro	His	Ala 195
Glu	Pro	Pro	Pro	Arg 200	Gly	Ser	Pro	Gly	Asn 205	Gly	Ser	Ser	His	Ser 210
Gly	Ala	Pro	Gly	Pro 215	Asp	Pro	Thr	Leu	Ala 220	Arg	Gly	His	Asn	Val 225
Ile	Asn	Val	Ile	Val 230	Pro	Glu	Ser	Arg	Ala 235	His	Phe	Phe	Gln	Gln 240
Leu	Gly	Tyr	Val	Leu 245	Ala	Thr	Leu	Leu	Leu 250	Phe	Ile	Leu	Leu	Leu 255
Val	Thr	Val	Leu	Leu 260	Ala	Ala	Arg	Arg	Arg 265	Arg	Gly	Gly	Tyr	Glu 270
Tyr	Ser	Asp	Gln	Lys 275	Ser	Gly	Lys	Ser	Lys 280	Gly	Lys	Asp	Val	Asn 285
Leu	Ala	Glu	Phe	Ala 290	Val	Ala	Ala	Gly	Asp 295	Gln	Met	Leu	Tyr	Arg 300
Ser	Glu	Asp	Ile	Gln 305	Leu	Asp	Tyr	Lys	Asn 310	Asn	Ile	Leu	Lys	Glu 315
Arg	Ala	Glu	Leu	Ala 320	His	Ser	Pro	Leu	Pro 325	Ala	Lys	Tyr	Ile	Asp 330
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<400> 78

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<211> 475

<212> PRT

<213> Homo sapiens

<400> 79

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Thr Tyr Gly Thr Thr Ser Ser Ser Leu Arg Ala Asp Gln Glu Ala 20 25 30

Leu Leu Glu Lys Leu Leu Asp Arg Pro Pro Pro Gly Leu Gln Arg
35 40 45

Pro Glu Asp Arg Phe Cys Gly Thr Tyr Ile Ile Phe Phe Ser Leu 50 55 60

Gly Ile Gly Ser Leu Leu Pro Trp Asn Phe Phe Ile Thr Ala Lys
65 70 75

Glu Tyr Trp Met Phe Lys Leu Arg Asn Ser Ser Ser Pro Ala Thr 80 85 90

Gly Glu Asp Pro Glu Gly Ser Asp Ile Leu Asn Tyr Phe Glu Ser 95 100 105

Tyr Leu Ala Val Ala Ser Thr Val Pro Ser Met Leu Cys Leu Val Ala Asn Phe Leu Leu Val Asn Arg Val Ala Val His Ile Arg Val Leu Ala Ser Leu Thr Val Ile Leu Ala Ile Phe Met Val Ile Thr 140 145 Ala Leu Val Lys Val Asp Thr Ser Ser Trp Thr Arg Gly Phe Phe 155 Ala Val Thr Ile Val Cys Met Val Ile Leu Ser Gly Ala Ser Thr 170 Val Phe Ser Ser Ser Ile Tyr Gly Met Thr Gly Ser Phe Pro Met Arg Asn Ser Gln Ala Leu Ile Ser Gly Gly Ala Met Gly Gly Thr Val Ser Ala Val Ala Ser Leu Val Asp Leu Ala Ala Ser Ser Asp Val Arg Asn Ser Ala Leu Ala Phe Phe Leu Thr Ala Thr Ile Phe Leu Val Leu Cys Met Gly Leu Tyr Leu Leu Leu Ser Arg Leu Glu Tyr Ala Arg Tyr Tyr Met Arg Pro Val Leu Ala Ala His Val Phe Ser Gly Glu Glu Leu Pro Gln Asp Ser Leu Ser Ala Pro Ser Val Ala Ser Arg Phe Ile Asp Ser His Thr Pro Pro Leu Arg Pro Ile Leu Lys Lys Thr Ala Ser Leu Gly Phe Cys Val Thr Tyr Val Phe Phe Ile Thr Ser Leu Ile Tyr Pro Ala Val Cys Thr Asn Ile Glu Ser Leu Asn Lys Gly Ser Gly Ser Leu Trp Thr Thr Lys Phe Phe Ile Pro Leu Thr Thr Phe Leu Leu Tyr Asn Phe Ala Asp Leu Cys Gly Arg Gln Leu Thr Ala Trp Ile Gln Val Pro Gly Pro Asn Ser Lys Ala Leu Pro Gly Phe Val Leu Leu Arg Thr Cys Leu Ile Pro Leu Phe Val Leu Cys Asn Tyr Gln Pro Arg Val His Leu Lys

395 400 405 Thr Val Val Phe Gln Ser Asp Val Tyr Pro Ala Leu Leu Ser Ser 410 Leu Leu Gly Leu Ser Asn Gly Tyr Leu Ser Thr Leu Ala Leu Leu 430 425 Tyr Gly Pro Lys Ile Val Pro Arg Glu Leu Ala Glu Ala Thr Gly 450 445 440 Val Val Met Ser Phe Tyr Val Cys Leu Gly Leu Thr Leu Gly Ser 460 Ala Cys Ser Thr Leu Leu Val His Leu Ile <210> 80 <211> 22 <212> DNA <213> Artificial <220> <221> Artificial sequence <222> 1-22 <223> Synthetic construct. <400> 80 ttttgcggtc accattgtct gc 22 <210> 81 <211> 23 <212> DNA <213> Homo sapiens <220> <221> Artificial sequence <222> 1-23 <223> Synthetic construct. <400> 81 cgtaggtgac acagaagccc agg 23 <210> 82 <211> 49 <212> DNA <213> Artificial <220> <221> Artificial sequence <222> 1-49 <223> Synthetic construct. <400> 82 tacggcatga ccggctcctt tcctatgagg aactcccagg cactgatat 49 <210> 83 <211> 1844

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<211> 567

<212> PRT

<213> Homo sapiens

<400> 84

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Leu Ser Leu Val Ala Ser Gln Asp Trp Lys Ala Glu Arg Ser Gln 20 25 30

Asp Pro Phe Glu Lys Cys Met Gln Asp Pro Asp Tyr Glu Gln Leu
35 40 45

Arg Val Ile Val Val Gly Ala Gly Val Ala Gly Leu Val Ala Ala 65 70 75

Lys Val Leu Ser Asp Ala Gly His Lys Val Thr Ile Leu Glu Ala 80 85 90

Asp Asn Arg Ile Gly Gly Arg Ile Phe Thr Tyr Arg Asp Gln Asn 95 100 105

Thr Gly Trp Ile Gly Glu Leu Gly Ala Met Arg Met Pro Ser Ser 110 115 120

His Arg Ile Leu His Lys Leu Cys Gln Gly Leu Gly Leu Asn Leu 125 130 135

Thr Lys Phe Thr Gln Tyr Asp Lys Asn Thr Trp Thr Glu Val His
140 145 150

Glu Val Lys Leu Arg Asn Tyr Val Val Glu Lys Val Pro Glu Lys 155 160 165 Leu Gly Tyr Ala Leu Arg Pro Gln Glu Lys Gly His Ser Pro Glu Asp Ile Tyr Gln Met Ala Leu Asn Gln Ala Leu Lys Asp Leu Lys 185 Ala Leu Gly Cys Arg Lys Ala Met Lys Lys Phe Glu Arg His Thr 200 Leu Leu Glu Tyr Leu Leu Gly Glu Gly Asn Leu Ser Arg Pro Ala Val Gln Leu Leu Gly Asp Val Met Ser Glu Asp Gly Phe Phe Tyr Leu Ser Phe Ala Glu Ala Leu Arg Ala His Ser Cys Leu Ser Asp Arg Leu Gln Tyr Ser Arg Ile Val Gly Gly Trp Asp Leu Leu Pro 270 Arg Ala Leu Leu Ser Ser Leu Ser Gly Leu Val Leu Leu Asn Ala 275 Pro Val Val Ala Met Thr Gln Gly Pro His Asp Val His Val Gln 290 Ile Glu Thr Ser Pro Pro Ala Arg Asn Leu Lys Val Leu Lys Ala Asp Val Val Leu Leu Thr Ala Ser Gly Pro Ala Val Lys Arg Ile 320 Thr Phe Ser Pro Pro Leu Pro Arg His Met Gln Glu Ala Leu Arg Arg Leu His Tyr Val Pro Ala Thr Lys Val Phe Leu Ser Phe Arg Arg Pro Phe Trp Arg Glu Glu His Ile Glu Gly Gly His Ser Asn Thr Asp Arg Pro Ser Arg Met Ile Phe Tyr Pro Pro Pro Arg Glu Gly Ala Leu Leu Leu Ala Ser Tyr Thr Trp Ser Asp Ala Ala Ala Ala Phe Ala Gly Leu Ser Arg Glu Glu Ala Leu Arg Leu Ala Leu 410 Asp Asp Val Ala Ala Leu His Gly Pro Val Val Arg Gln Leu Trp Asp Gly Thr Gly Val Val Lys Arg Trp Ala Glu Asp Gln His Ser 445 Gln Gly Gly Phe Val Val Gln Pro Pro Ala Leu Trp Gln Thr Glu 

 Lys
 Asp
 Asp
 Trp
 Thr 470
 Val
 Pro
 Tyr
 Gly
 Arg
 Ile
 Tyr
 Phe
 Ala
 Gly 480

 Glu
 His
 Thr
 Ala
 Tyr
 Pro
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 Gly
 Trp
 Val
 Glu
 Thr
 Ala
 Val
 Lys

 Ser
 Ala
 Leu
 Arg
 Ala
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 Lys
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 Asn
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 Gly
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 Ile
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 Ile
 Asn
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 Pro

 Ala
 Ser
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 Ala
 Ser
 Pro
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 Gly
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 Ser
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 Glu
 Ser

 Gly
 Gln
 Gly
 His
 Gly
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 Ala
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<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 86

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Tyr	Ser	Суѕ	Gly	Ala 380	Arg	Val	Gly	Phe	Phe 385	Gln	Gly	Asp	Ile	Arg 390
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His Ile Gln Asp

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Thr Arg Arg Ala Ile Ser Glu Ala Asn Glu Asp Pro Glu Pro Glu 65 70 75

Gln Asp Tyr Asp Glu Ala Leu Gly Arg Leu Glu Pro Pro Arg Arg 80  $\,$  85  $\,$  90  $\,$ 

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Ser Arg Ser Lys Val Tyr Val Ala Val Asp Gly Thr Thr Val Leu 110 115 120

Glu Asp Glu Ala Arg Glu Gln Gly Arg Gly Ile His Val Ile Val 125 130 135

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Val	Leu	Glu	Glu	Asp 395		Asp	· Ile	Ala	Val 400		Phe	Phe	Ser	Phe 405
Leu	Ser	Gln	Ser	Ile 410		Leu	Leu	Glu	Glu 415		Asp	Ser	Leu	Tyr 420
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Tyr S	Ser	Val	Lys	Lys 635	Pro	Pro	Ser	Val	Thr 640	Pro	Ile	Phe	Leu	Glu 645
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Val Gly Cys Tyr Val Ala Gly Ile Ile Pro Leu Ala Val Asn Phe 20 25 30

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Leu Cys Gly Thr Ala Leu Ala Val Ile Val Pro Glu Gly Val His
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Ala Leu Tyr Glu Asp Ile Leu Glu Gly Lys His His Gln Ala Ser
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Glu Thr His Asn Val Ile Ala Ser Asp Lys Ala Ala Glu Lys Ser 80 85 90

Val Val His Glu His Glu His Ser His Asp His Thr Gln Leu His
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Ala Tyr Ile Gly Val Ser Leu Val Leu Gly Phe Val Phe Met Leu 110 115 120

Leu Val Asp Gln Ile Gly Asn Ser His Val His Ser Thr Asp Asp 125 130 135

Pro Glu Ala Ala Arg Ser Ser Asn Ser Lys Ile Thr Thr Leu 140 145 150

Gly Leu Val Val His Ala Ala Ala Asp Gly Val Ala Leu Gly Ala 155 160 165

Ala Ala Ser Thr Ser Gln Thr Ser Val Gln Leu Ile Val Phe Val 170 175 180

Ala Ile Met Leu His Lys Ala Pro Ala Ala Phe Gly Leu Val Ser 185 190 195

Phe Leu Met His Ala Gly Leu Glu Arg Asn Arg Ile Arg Lys His 200 205 210

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Lys Phe Ser Tyr Asp Leu Ser Gln Cys Ile Asn Gln Met Lys Glu 155 160 165

Val Lys Glu Gln Cys Glu Glu Arg Ile Glu Glu Val Thr Lys Lys 170 175 180

Gly Asn Glu Ala Val Ala Ser Arg Asp Leu Ser Glu Asn Asn Asp 185 190 195

Gln Arg Gln Gln Leu Gln Ala Leu Ser Glu Pro Gln Pro Arg Leu  $200 \hspace{1.5cm} 205 \hspace{1.5cm} 210$ 

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Arg Gly Glu Asp Asp Tyr Asn Met Asp Glu Asn Glu Ala Glu Ser
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145 Ser Asn Phe Ala Ser His Ala Ile Val Glu Asp Asn Leu Ile Lys 155

Lys Ala Leu Thr Thr Gly Ser Leu Pro Thr Phe Ile Asp Ala Gly

125

Gln Leu Thr Ser Ala Gly Arg Arg Val Val Phe Met Gly Asp Asp 175

Thr Trp Lys Asp Leu Phe Pro Gly Ala Phe Ser Lys Ala Phe Phe 195 190 185

Phe Pro Ser Phe Asn Val Arg Asp Leu Asp Thr Val Asp Asn Gly

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His G	Gly	Pro	His	His 245	Pro	Glu	Met	Ala	Lys 250	Lys	Leu	Ser	Gln	Met 255
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His (	Gly	Gly	Asp	Ser 290	Glu	Leu	Glu	Val	Ser 295	Ala	Ala	Leu	Phe	Leu 300
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Glu V	Val	Ile	Pro	Gln 320	Val	Ser	Leu	Val	Pro 325	Thr	Leu	Ala	Leu	Leu 330
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Glu 1	Leu	Phe	Ser	Gly 350	Gly	Glu	Asp	Ser	Gln 355	Pro	His	Ser	Ser	Ala 360
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Lys (	Glu	Leu	His	Gln 395	Leu	Gln	Asn	Leu	Phe 400	Ser	Lys	Ala	Ser	Ala 405
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Leu :	Pro	Thr	Val	Ile 425	Ala	Glu	Leu	Gln	Gln 430	Phe	Leu	Arg	Gly	Ala 435
Arg 2	Ala	Met	Cys	Ile 440	Glu	Ser	Trp	Ala	Arg 445	Phe	Ser	Leu	Val	Arg 450
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Leu	Trp	Lys	Ala	Trp 530	Ala	Gly	Trp	Gly	Ser 535	Lys	Arg	Pro	Leu	Ala 540
Thr	Leu	Phe	Pro	Ile 545	Pro	Gly	Pro	Val	Leu 550	Leu	Leu	Leu	Leu	Phe 555
Arg	Leu	Ala	Val	Phe 560	Phe	Ser	Asp	Ser	Phe 565	Val	Val	Ala	Glu	Ala 570
Arg	Ala	Thr	Pro	Phe 575	Leu	Leu	Gly	Ser	Phe 580	Ile	Leu	Leu	Leu	Val 585
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His	Asn	Gly	Ala	Tyr 620	Ala	Leu	Arg	Leu	Gly 625	Ile	Gly	Leu	Leu	Leu 630
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Ala	Leu	Val	Ala	Leu 680	Leu	Ala	Ala	Val	Arg 685	Leu	Trp	Leu	Arg	Arg 690
Tyr	Gly	Asn	Leu	Lys 695	Ser	Pro	Glu	Pro	Pro 700	Met	Leu	Phe	Val	Arg 705
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Leu	Ala	Ser	Gly	Ala 725	Asp	Glu	Ala	Pro	Pro 730	Arg	Leu	Arg	Val	Leu 735
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Ala	Ala	Ser	Gly	Leu 755	Ala	Leu	Leu	Leu	Trp 760	Lys	Pro	Val	Thr	Val 765
Leu	Val	Lys	Ala	Gly 770	Ala	Gly	Ala	Pro	Arg 775	Thr	Arg	Thr	Val	Leu 780
Thr	Pro	Phe	Ser	Gly	Pro	Pro	Thr	Ser	Gln	Ala	Asp	Leu	Asp	Tyr

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Ser	Leu	Val	Phe	Leu 860	Leu	Leu	Phe	Leu	Gln 865	Ser	Phe	Leu	Leu	Let 870
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Pro	Phe	Leu	Cys	Glu 965	Ser	Gln	Gly	Leu	Arg 970	Lys	Arg	Gln	Gln	Pro 975
Pro	Gly	Asn	Glu	Ala 980	Asp	Ala	Arg	Val	Arg 985	Pro	Glu	Glu	Glu	Glu 990
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Arg	His	Leu	Met 1	Val .040	Trp	Lys	Val		Ala 1045	Pro	Lys	Phe		Phe .050
Glu	Ala	Val	Gly 1	Phe .055	Ile	Val	Ser		Val .060	Gly	Leu	Leu		Gly .065
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Ala Pro Glu Lys Trp Lys Arg Asn Pro Glu Asp Leu Pro Val Ser 50 55 60

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Asn Thr Lys Ser Asn Arg Thr Trp Ser Gln Cys Val Thr Asn His 80 85 90

Thr Leu Val Leu Thr Trp Leu Glu Pro Asn Thr Leu Tyr Cys Val 95 100 105

His Val Glu Ser Phe Val Pro Gly Pro Pro Arg Arg Ala Gln Pro 110 115 120

Ser Glu Lys Gln Cys Ala Arg Thr Leu Lys Asp Gln Ser Ser Glu 125 130 135

Phe Lys Ala Lys Ile Ile Phe Trp Tyr Val Leu Pro Ile Ser Ile 140 145 150

Thr Val Phe Leu Phe Ser Val Met Gly Tyr Ser Ile Tyr Arg Tyr 155 160 165 Ile His Val Gly Lys Glu Lys His Pro Ala Asn Leu Ile Leu Ile Tyr Gly Asn Glu Phe Asp Lys Arg Phe Phe Val Pro Ala Glu Lys Ile Val Ile Asn Phe Ile Thr Leu Asn Ile Ser Asp Asp Ser Lys 205 200 Ile Ser His Gln Asp Met Ser Leu Leu Gly Lys Ser Ser Asp Val Ser Ser Leu Asn Asp Pro Gln Pro Ser Gly Asn Leu Arg Pro Pro 235 Gln Glu Glu Glu Val Lys His Leu Gly Tyr Ala Ser His Leu Met Glu Ile Phe Cys Asp Ser Glu Glu Asn Thr Glu Gly Thr Ser Leu Thr Gln Gln Glu Ser Leu Ser Arg Thr Ile Pro Pro Asp Lys 280 Thr Val Ile Glu Tyr Glu Tyr Asp Val Arg Thr Thr Asp Ile Cys Ala Gly Pro Glu Glu Glu Leu Ser Leu Gln Glu Glu Val Ser 310 Thr Gln Gly Thr Leu Leu Glu Ser Gln Ala Ala Leu Ala Val Leu Gly Pro Gln Thr Leu Gln Tyr Ser Tyr Thr Pro Gln Leu Gln Asp Leu Asp Pro Leu Ala Gln Glu His Thr Asp Ser Glu Glu Gly Pro 350 Glu Glu Glu Pro Ser Thr Thr Leu Val Asp Trp Asp Pro Gln Thr Gly Arg Leu Cys Ile Pro Ser Leu Ser Ser Phe Asp Gln Asp Ser Glu Gly Cys Glu Pro Ser Glu Gly Asp Gly Leu Gly Glu Gly Gly Leu Leu Ser Arg Leu Tyr Glu Glu Pro Ala Pro Asp Arg Pro Pro 410 Gly Glu Asn Glu Thr Tyr Leu Met Gln Phe Met Glu Glu Trp Gly 430 Leu Tyr Val Gln Met Glu Asn

<210> 105

440

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<211> 21
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<222> 1-21
<223> Synthetic construct
<400> 105
 cgctgctgct gttgctcctg g 21
<210> 106
<211> 18
<212> DNA
<213> Artificial
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<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 106
cagtgtgcca ggactttg 18
<210> 107
<211> 18
<212> DNA
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<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 107
 agtcgcaggc agcgttgg 18
<210> 108
<211> 25
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<222> 1-25
<223> Synthetic construct.
<400> 108
 ctcctccgag tctgtgtgct cctgc 25
<210> 109
<211> 51
<212> DNA
<213> Artificial
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<221> Artificial Sequence
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<222> 1-51
<223> Synthetic construct.
<400> 109
 ggacgggcag ttccctgtgt ctctggtggt ttgcctaaac ctgcaaacat 50
c 51
<210> 110
<211> 1114
<212> DNA
<213> Homo sapiens
<400> 110
 cggacgcgtg ggcggacgcg tgggcggacg cgtgggtctc tgcggggaga 50
 cgccagcctg cgtctgccat ggggctcggg ttgaggggct ggggacgtcc 100
 tctgctgact gtggccaccg ccctgatgct gcccgtgaag ccccccgcag 150
 gctcctgggg ggcccagatc atcgggggcc acgaggtgac ccccactcc 200
 aggccctaca tggcatccgt gcgcttcggg ggccaacatc actgcggagg 250
 cttcctgctg cgagcccgct gggtggtctc ggccgcccac tgcttcagcc 300
 acagagacet cegeaetgge etggtggtge tgggegeeca egteetgagt 350
 actgcggagc ccacccagca ggtgtttggc atcgatgctc tcaccacgca 400
 ccccgactac caccccatga cccacgccaa cgacatctgc ctgctgcggc 450
 tgaacggctc tgctgtcctg ggccctgcag tggggctgct gaggctgcca 500
 gggagaaggg ccaggcccc cacagcgggg acacggtgcc gggtggctgg 550
 ctggggcttc gtgtctgact ttgaggagct gccgcctgga ctgatggagg 600
 ccaaggtccg agtgctggac ccggacgtct gcaacagctc ctggaagggc 650
 cacctgacac ttaccatgct ctgcacccgc agtggggaca gccacagacg 700
 gggcttctgc tcggccgact ccggagggcc cctggtgtgc aggaaccggg 750
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 cccgacgtgt acacgcaggt gtccgccttt gtggcctgga tctgggacgt 850
 ggttcggcgg agcagtcccc agcccggccc cctgcctggg accaccaggc 900
 ccccaggaga agccgcctga gccacaacct tgcggcatgc aaatgagatg 950
 gccgctccag gcctggaatg ttccgtggct gggccccacg ggaagcctga 1000
tgttcagggt tggggtggga cgggcagcgg tggggcacac ccattccaca 1050
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tgcaaagggc agaagcaaac ccagtaaaat gttaactgac aaaaaaaaa 1100

## aaaaaaaaa gaaa 1114

<210> 111

<211> 283

<212> PRT

<213> Homo sapiens

<400> 111

Met Gly Leu Gly Leu Arg Gly Trp Gly Arg Pro Leu Leu Thr Val 1 5 10 15

Ala Thr Ala Leu Met Leu Pro Val Lys Pro Pro Ala Gly Ser Trp 20 25 30

Gly Ala Gln Ile Ile Gly Gly His Glu Val Thr Pro His Ser Arg 35 40 45

Pro Tyr Met Ala Ser Val Arg Phe Gly Gly Gln His His Cys Gly
50 55 60

Gly Phe Leu Leu Arg Ala Arg Trp Val Val Ser Ala Ala His Cys
65 70 75

Phe Ser His Arg Asp Leu Arg Thr Gly Leu Val Val Leu Gly Ala  $80 \\ 85 \\ 90$ 

His Val Leu Ser Thr Ala Glu Pro Thr Gln Gln Val Phe Gly Ile 95 100 105

Asp Ala Leu Thr Thr His Pro Asp Tyr His Pro Met Thr His Ala 110 115 120

Asn Asp Ile Cys Leu Leu Arg Leu Asn Gly Ser Ala Val Leu Gly
125 130 135

Pro Ala Val Gly Leu Leu Arg Leu Pro Gly Arg Arg Ala Arg Pro 140 145 150

Pro Thr Ala Gly Thr Arg Cys Arg Val Ala Gly Trp Gly Phe Val 155 160 165

Ser Asp Phe Glu Glu Leu Pro Pro Gly Leu Met Glu Ala Lys Val 170 175 180

Arg Val Leu Asp Pro Asp Val Cys Asn Ser Ser Trp Lys Gly His
185 190 195

Leu Thr Leu Thr Met Leu Cys Thr Arg Ser Gly Asp Ser His Arg 200 205 210

Arg Gly Phe Cys Ser Ala Asp Ser Gly Gly Pro Leu Val Cys Arg 215 220 225

Asn Arg Ala His Gly Leu Val Ser Phe Ser Gly Leu Trp Cys Gly 230 235 240

Asp Pro Lys Thr Pro Asp Val Tyr Thr Gln Val Ser Ala Phe Val 245 250 255

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Ala Trp Ile Trp Asp Val Val Arg Arg Ser Ser Pro Gln Pro Gly
                                      265
 Pro Leu Pro Gly Thr Thr Arg Pro Pro Gly Glu Ala Ala
                 275
<210> 112
<211> 24
<212> DNA
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<222> 1-24
<223> Synthetic construct.
<400> 112
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<210> 113
<211> 23
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<222> 1-23
<223> Synthetic construct.
<400> 113
cgagaaggaa acgaggccgt gag 23
<210> 114
<211> 44
<212> DNA
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<221> Artificial Sequence
<222> 1-44
<223> Synthetic construct.
<400> 114
tgacacttac catgetetge accegeagtg gggacageca caga 44
<210> 115
<211> 1808
<212> DNA
<213> Homo sapiens
<400> 115
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cctgacgcct gacgcctgtc cccggcccgg catgagccgc tacctgctgc 100
cgctgtcggc gctgggcacg gtagcaggcg ccgccgtgct gctcaaggac 150
 tatgtcaccg gtggggcttg ccccagcaag gccaccatcc ctgggaagac 200
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ggtcatcgtg acggcgcca acacaggcat cgggaagcag accgccttgg 250 aactggccag gagaggaggc aacatcatcc tggcctgccg agacatggag 300 aagtgtgagg cggcagcaaa ggacatccgc ggggagaccc tcaatcacca 350 tgtcaacgcc cggcacctgg acttggcttc cctcaagtct atccgagagt 400 ttgcagcaaa gatcattgaa gaggaggagc gagtggacat tctaatcaac 450 aacgegggtg tgatgeggtg ceceeactgg accaeegagg aeggettega 500 gatgcagttt ggcgttaacc acctgggtca ctttctcttg acaaacttgc 550 tgctggacaa gctgaaagcc tcagcccctt cgcggatcat caacctctcg 600 tccctggccc atgttgctgg gcacatagac tttgacgact tgaactggca 650 gacgaggaag tataacacca aagccgccta ctgccagagc aagctcgcca 700 tcgtcctctt caccaaggag ctgagccggc ggctgcaagg ctctggtgtg 750 actgtcaacg ccctgcaccc cggcgtggcc aggacagagc tgggcagaca 800 cacgggcatc catggctcca ccttctccag caccacactc gggcccatct 850 totggctgct ggtcaagagc cccgagctgg ccgcccagcc cagcacatac 900 ctggccgtgg cggaggaact ggcggatgtt tccggaaagt acttcgatgg 950 actcaaacag aaggccccgg cccccgaggc tgaggatgag gaggtggccc 1000 ggaggetttg ggetgaaagt geeegeetgg tgggettaga ggeteeetet 1050 gtgagggagc agcccctccc cagataacct ctggagcaga tttgaaagcc 1100 aggatggcgc ctccagaccg aggacagctg tccgccatgc ccgcagcttc 1150 ctggcactac ctgagccggg agacccagga ctggcggccg ccatgcccgc 1200 agtaggttct agggggcggt gctggccgca gtggactggc ctgcaggtga 1250 gcactgcccc gggctctggc tggttccgtc tgctctgctg ccagcagggg 1300 agaggggcca tctgatgctt cccctgggaa tctaaactgg gaatggccga 1350 ggaggaaggg gctctgtgca cttgcaggcc acgtcaggag agccagcggt 1400 gcctgtcggg gagggttcca aggtgctccg tgaagagcat gggcaagttg 1450 tctgacactt ggtggattct tgggtccctg tgggaccttg tgcatgcatg 1500 gtcctctctg agccttggtt tcttcagcag tgagatgctc agaataactg 1550 ctgtctccca tgatggtgtg gtacagcgag ctgttgtctg gctatggcat 1600 ggctgtgccg ggggtgtttg ctgagggctt cctgtgccag agcccagcca 1650

gagagcaggt gcaggtgtca tcccgagttc aggctctgca cggcatggag 1700 tgggaacccc accagctgct gctacaggac ctgggattgc ctgggactcc 1750 caccttccta tcaattctca tggtagtcca aactgcagac tctcaaactt 1800 gctcattt 1808

<210> 116

<211> 331

<212> PRT

<213> Homo sapiens

<400> 116

Met Ser Arg Tyr Leu Leu Pro Leu Ser Ala Leu Gly Thr Val Ala 1 5 10 15

Gly Ala Ala Val Leu Leu Lys Asp Tyr Val Thr Gly Gly Ala Cys 20 25 30

Pro Ser Lys Ala Thr Ile Pro Gly Lys Thr Val Ile Val Thr Gly
35 40 45

Ala Asn Thr Gly Ile Gly Lys Gln Thr Ala Leu Glu Leu Ala Arg
50 55 60

Arg Gly Gly Asn Ile Ile Leu Ala Cys Arg Asp Met Glu Lys Cys
65 70 75

Glu Ala Ala Lys Asp Ile Arg Gly Glu Thr Leu Asn His His 80 85 90

Val Asn Ala Arg His Leu Asp Leu Ala Ser Leu Lys Ser Ile Arg 95 100 105

Glu Phe Ala Ala Lys Ile Ile Glu Glu Glu Glu Arg Val Asp Ile 110 115 120

Leu Ile Asn Asn Ala Gly Val Met Arg Cys Pro His Trp Thr 125 130 135

Glu Asp Gly Phe Glu Met Gln Phe Gly Val Asn His Leu Gly His  $140 \,$  145  $\,$  150

Phe Leu Leu Thr Asn Leu Leu Leu Asp Lys Leu Lys Ala Ser Ala 155 160 165

Pro Ser Arg Ile Ile Asn Leu Ser Ser Leu Ala His Val Ala Gly 170 175 180

His Ile Asp Phe Asp Asp Leu Asn Trp Gln Thr Arg Lys Tyr Asn 185 190 195

Thr Lys Ala Ala Tyr Cys Gln Ser Lys Leu Ala Ile Val Leu Phe  $200 \hspace{1cm} 205 \hspace{1cm} 210 \hspace{1cm}$ 

Thr Lys Glu Leu Ser Arg Arg Leu Gln Gly Ser Gly Val Thr Val 215 220 225

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Asn Ala Leu His Pro 230 Sly Val Ala Arg Thr Slu Leu Gly Arg His 240

Thr Gly Ile His Gly Ser Thr Phe Ser Ser Thr Thr Leu Gly Pro 255

Ile Phe Trp Leu Leu Val Lys Ser Pro Glu Leu Ala Ala Gln Pro 270

Ser Thr Tyr Leu Ala Val Ala Glu Glu Leu Ala Asp Val Ser Gly 285

Lys Tyr Phe Asp Gly Leu Lys Gln Lys Ala Pro Ala Pro Glu Ala 300

Glu Asp Glu Glu Val Ala Arg Arg Leu Trp 310 Ala Glu Ser Ala Arg 315

Leu Val Gly Leu Glu Ala Pro Ser Val Arg Glu Glu Gln Pro Leu Pro 330
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Arg

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ctggcggtgc tggcgctcgg gacaggagac ccagaaaggg ctgcggctcg 100
gggcgacacg ttctcggcgc tgaccagcgt ggcgcgcgc ctggcgcccg 150
agcgccggct gctggggctg ctgaggcggt acctgcggg ggaggaggcg 200
cggctgcggg acctgactag attctacgac aaggtacttt ctttgcatga 250
ggattcaaca acccctgtgg ctaaccctct gcttgcattt actctcatca 300
aacgcctgca gtctgactgg aggaatgtgg tacatagtct ggaggccagt 350
gagaacatcc gagctctgaa ggatggctat gagaaggtgg agcaagacct 400
tccagccttt gaggaccttg aggagcagc aagggccctg atgcggctgc 450
aggacgtgta catgctcaat gtgaaaggcc tggcccgagg tgtctttcag 500
agagtcactg gctctgccat cactgacctg tacagcccca aacggctctt 550
ttctctcaca ggggatgact gcttccaagt tggcaaggtg gcctatgaca 600
tgggggatta ttaccatgcc attccatgc tggaggaggc tgtcagtct 650
ttccgaggat cttacggaga gtggaagaca gaggatgagg caagtctaga 700

agatgccttg gatcacttgg cctttgctta tttccgggca ggaaatgttt 750 cgtgtgccct cagcctctct cgggagtttc ttctctacag cccagataat 800 aagaggatgg ccaggaatgt cttgaaatat gaaaggctct tggcagagag 850 ccccaaccac gtggtagctg aggctgtcat ccagaggccc aatatacccc 900 acctgcagac cagagacacc tacgaggggc tatgtcagac cctgggttcc 950 cageceacte tetaceagat ecetageete taetgtteet atgagaceaa 1000 ttccaacgcc tacctgctgc tccagcccat ccggaaggag gtcatccacc 1050 tggagcccta cattgctctc taccatgact tcgtcagtga ctcagaggct 1100 cagaaaatta gagaacttgc agaaccatgg ctacagaggt cagtggtggc 1150 atcaggggag aagcagttac aagtggagta ccgcatcagc aaaagtgcct 1200 ggctgaagga cactgttgac ccaaaactgg tgaccctcaa ccaccgcatt 1250 gctgccctca caggccttga tgtccggcct ccctatgcag agtatctgca 1300 ggtggtgaac tatggcatcg gaggacacta tgagcctcac tttgaccatg 1350 ctacgtcacc aagcagcccc ctctacagaa tgaagtcagg aaaccgagtt 1400 gcaacattta tgatctatct gagctcggtg gaagctggag gagccacagc 1450 cttcatctat gccaacctca gcgtgcctgt ggttaggaat gcagcactgt 1500 tttggtggaa cctgcacagg agtggtgaag gggacagtga cacacttcat 1550 gctggctgtc ctgtcctggt gggagataag tgggtggcca acaagtggat 1600 acatgagtat ggacaggaat teegcagaee etgeagetee ageeetgaag 1650 actgaactgt tggcagagag aagctggtgg agtcctgtgg ctttccagag 1700 aagccaggag ccaaaagctg gggtaggaga ggagaaagca gagcagcctc 1750 ctggaagaag gccttgtcag ctttgtctgt gcctcgcaaa tcagaggcaa 1800 gggagaggtt gttaccaggg gacactgaga atgtacattt gatctgcccc 1850 agccacggaa gtcagagtag gatgcacagt acaaaggagg ggggagtgga 1900 ggcctgagag ggaagtttct ggagttcaga tactctctgt tgggaacagg 1950 acatctcaac agtctcaggt tcgatcagtg ggtcttttgg cactttgaac 2000 cttgaccaca gggaccaaga agtggcaatg aggacacctg caggaggggc 2050 tagcctgact cccagaactt taagactttc tccccactgc cttctgctgc 2100 agcccaagca gggagtgtcc ccctcccaga agcatatccc agatgagtgg 2150

<210> 118

<211> 544

<212> PRT

<213> Homo sapiens

<400> 118

Met Gly Pro Gly Ala Arg Leu Ala Ala Leu Leu Ala Val Leu Ala 1 5 10 15

Leu Gly Thr Gly Asp Pro Glu Arg Ala Ala Ala Arg Gly Asp Thr  $20 \\ 25 \\ 30$ 

Phe Ser Ala Leu Thr Ser Val Ala Arg Ala Leu Ala Pro Glu Arg 35 40 45

Arg Leu Leu Gly Leu Leu Arg Arg Tyr Leu Arg Gly Glu Glu Ala 50 55 60

Arg Leu Arg Asp Leu Thr Arg Phe Tyr Asp Lys Val Leu Ser Leu 65 70 75

His Glu Asp Ser Thr Thr Pro Val Ala Asn Pro Leu Leu Ala Phe  $80 \\ \hspace{1.5cm} 85 \\ \hspace{1.5cm} 90$ 

Thr Leu Ile Lys Arg Leu Gln Ser Asp Trp Arg Asn Val Val His
95 100 105

Ser Leu Glu Ala Ser Glu Asn Ile Arg Ala Leu Lys Asp Gly Tyr 110 115 120

Glu Lys Val Glu Gln Asp Leu Pro Ala Phe Glu Asp Leu Glu Gly 125 130 135

Ala Ala Arg Ala Leu Met Arg Leu Gln Asp Val Tyr Met Leu Asn 140 145 150

Val Lys Gly Leu Ala Arg Gly Val Phe Gln Arg Val Thr Gly Ser 155 160 165

Ala Ile Thr Asp Leu Tyr Ser Pro Lys Arg Leu Phe Ser Leu Thr 170 175 180

Gly Asp Asp Cys Phe Gln Val Gly Lys Val Ala Tyr Asp Met Gly 185 190 195

Asp Tyr Tyr His Ala Ile Pro Trp Leu Glu Glu Ala Val Ser Leu 200 205 210

Phe Arg Gly Ser Tyr Gly Glu Trp Lys Thr Glu Asp Glu Ala Ser 215 220 225

Leu Glu Asp Ala Leu Asp His Leu Ala Phe Ala Tyr Phe Arg Ala 230 235 240

Gly Asn Val Ser Cys Ala Leu Ser Leu Ser Arg Glu Phe Leu Leu Tyr Ser Pro Asp Asn Lys Arg Met Ala Arg Asn Val Leu Lys Tyr Glu Arg Leu Leu Ala Glu Ser Pro Asn His Val Val Ala Glu Ala Val Ile Gln Arg Pro Asn Ile Pro His Leu Gln Thr Arg Asp Thr Tyr Glu Gly Leu Cys Gln Thr Leu Gly Ser Gln Pro Thr Leu Tyr 315 Gln Ile Pro Ser Leu Tyr Cys Ser Tyr Glu Thr Asn Ser Asn Ala Tyr Leu Leu Gln Pro Ile Arg Lys Glu Val Ile His Leu Glu Pro Tyr Ile Ala Leu Tyr His Asp Phe Val Ser Asp Ser Glu Ala Gln Lys Ile Arg Glu Leu Ala Glu Pro Trp Leu Gln Arg Ser Val Val Ala Ser Gly Glu Lys Gln Leu Gln Val Glu Tyr Arg Ile Ser Lys Ser Ala Trp Leu Lys Asp Thr Val Asp Pro Lys Leu Val Thr Leu Asn His Arg Ile Ala Ala Leu Thr Gly Leu Asp Val Arg Pro Pro Tyr Ala Glu Tyr Leu Gln Val Val Asn Tyr Gly Ile Gly Gly His Tyr Glu Pro His Phe Asp His Ala Thr Ser Pro Ser Ser Pro Leu Tyr Arg Met Lys Ser Gly Asn Arg Val Ala Thr Phe Met Ile Tyr Leu Ser Ser Val Glu Ala Gly Gly Ala Thr Ala Phe Ile Tyr Ala Asn Leu Ser Val Pro Val Val Arg Asn Ala Ala Leu Phe Trp 485 Trp Asn Leu His Arg Ser Gly Glu Gly Asp Ser Asp Thr Leu His Ala Gly Cys Pro Val Leu Val Gly Asp Lys Trp Val Ala Asn Lys 515 Trp Ile His Glu Tyr Gly Gln Glu Phe Arg Arg Pro Cys Ser Ser 535

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Ser Pro Glu Asp
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<210> 119
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<211> 23

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-23

<223> Synthetic construct.

<400> 119

cgggacagga gacccagaaa ggg 23

<210> 120

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 120

ggccaagtga tccaaggcat cttc 24

<210> 121

<211> 49

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-49

<223> Synthetic construct.

<400> 121

ctgcgggacc tgactagatt ctacgacaag gtactttctt tgcatgggg 49

<210> 122

<211> 1778

<212> DNA

<213> Homo sapiens

<400> 122

gagataggga gtctgggttt aagttcctgc tccatctcag gagcccctgc 50

teceaecet aggaageeae cagaeteeae ggtgtgggge caateaggtg 100

gaatcggccc tggcaggtgg ggccacgagc gctggctgag ggaccgagcc 150

ggagagcccc ggagcccccg taacccgcgc ggggagcgcc caggatgccg 200

cgcggggact cggagcaggt gcgctactgc gcgcgcttct cctacctctg 250 gctcaagttt tcacttatca tctattccac cgtgttctgg ctgattgggg 300 ccctggtcct gtctgtgggc atctatgcag aggttgagcg gcagaaatat 350 aaaacccttg aaagtgcctt cctggctcca gccatcatcc tcatcctcct 400 gggcgtcgtc atgttcatgg tctccttcat tggtgtgctg gcgtccctcc 450 gtgacaacct gtaccttctc caagcattca tgtacatcct tgggatctgc 500 ctcatcatgg agctcattgg tggcgtggtg gccttgacct tccggaacca 550 gaccattgac ttcctgaacg acaacattcg aagaggaatt gagaactact 600 atgatgatct ggacttcaaa aacatcatgg actttgttca gaaaaagttc 650 aagtgctgtg gcggggagga ctaccgagat tggagcaaga atcagtacca 700 cgactgcagt gcccctggac ccctggcctg tggggtgccc tacacctgct 750 gcatcaggaa cacgacagaa gttgtcaaca ccatgtgtgg ctacaaaact 800 atcgacaagg agcgtttcag tgtgcaggat gtcatctacg tgcggggctg 850 caccaacgcc gtgatcatct ggttcatgga caactacacc atcatggcgt 900 gcatcetect gggcatectg ettececagt teetgggggt getgetgaeg 950 ctgctgtaca tcacccgggt ggaggacatc atcatggagc actctgtcac 1000 tgatgggctc ctggggcccg gtgccaagcc cagcgtggag gcggcaggca 1050 cgggatgctg cttgtgctac cccaattagg gcccagcctg ccatggcagc 1100 tccaacaagg accgtctggg atagcacctc tcagtcaaca tcgtggggct 1150 ggacaggget geggeeeete tgeeeacaet cagtactgae caaageeagg 1200 gctgtgtgtg cctgtgtgta ggtcccacgg cctctgcctc cccagggagc 1250 agagcctggg cctcccctaa gaggctttcc ccgaggcagc tctggaatct 1300 gtgcccacct ggggcctggg gaacaaggcc ctcctttctc caggcctggg 1350 ctacagggga gggagagcct gaggctctgc tcagggccca tttcatctct 1400 ggcagtgcct tggcggtggt attcaaggca gttttgtagc acctgtaatt 1450 ggggagaggg agtgtgcccc tcggggcagg agggaagggc atctggggaa 1500 gggcaggagg gaagagctgt ccatgcagcc acgcccatgg ccaggttggc 1550 ctcttctcag cctcccaggt gccttgagcc ctcttgcaag ggcggctgct 1600 tccttgagcc tagttttttt ttacgtgatt tttgtaacat tcatttttt 1650 gtacagataa caggagtttc tgactaatca aagctggtat ttccccgcat 1700 gtcttattct tgcccttccc ccaaccagtt tgttaatcaa acaataaaaa 1750 catgttttgt tttgtttta aaaaaaaa 1778

<210> 123

<211> 294

<212> PRT

<213> Homo sapiens

<400> 123

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Ser Tyr Leu Trp Leu Lys Phe Ser Leu Ile Ile Tyr Ser Thr Val 20 25 30

Phe Trp Leu Ile Gly Ala Leu Val Leu Ser Val Gly Ile Tyr Ala 35 40 45

Glu Val Glu Arg Gln Lys Tyr Lys Thr Leu Glu Ser Ala Phe Leu
50 55 60

Ala Pro Ala Ile Ile Leu Ile Leu Gly Val Val Met Phe Met 65 70 75

Val Ser Phe Ile Gly Val Leu Ala Ser Leu Arg Asp Asn Leu Tyr 80 85 90

Leu Leu Gln Ala Phe Met Tyr Ile Leu Gly Ile Cys Leu Ile Met 95 100 105

Glu Leu Ile Gly Gly Val Val Ala Leu Thr Phe Arg Asn Gln Thr 110 115 120

Ile Asp Phe Leu Asn Asp Asn Ile Arg Arg Gly Ile Glu Asn Tyr 125 130 135

Tyr Asp Asp Leu Asp Phe Lys Asn Ile Met Asp Phe Val Gln Lys 140 145 150

Lys Phe Lys Cys Cys Gly Gly Glu Asp Tyr Arg Asp Trp Ser Lys 155 160 165

Asn Gln Tyr His Asp Cys Ser Ala Pro Gly Pro Leu Ala Cys Gly 170 175 180

Val Pro Tyr Thr Cys Cys Ile Arg Asn Thr Thr Glu Val Val Asn 185 190 195

Thr Met Cys Gly Tyr Lys Thr Ile Asp Lys Glu Arg Phe Ser Val

Gln Asp Val Ile Tyr Val Arg Gly Cys Thr Asn Ala Val Ile Ile 215 220 225

Trp Phe Met Asp Asn Tyr Thr Ile Met Ala Cys Ile Leu Leu Gly

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230
                                      235
                                                          240
 Ile Leu Leu Pro Gln Phe Leu Gly Val Leu Leu Thr Leu Leu Tyr
                                      250
 Ile Thr Arg Val Glu Asp Ile Ile Met Glu His Ser Val Thr Asp
                                      265
 Gly Leu Leu Gly Pro Gly Ala Lys Pro Ser Val Glu Ala Ala Gly
                                      280
 Thr Gly Cys Cys Leu Cys Tyr Pro Asn
                 290
<210> 124
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.
<400> 124
atcatctatt ccaccgtgtt ctggc 25
<210> 125
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.
<400> 125
gacagagtgc tccatgatga tgtcc 25
<210> 126
<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 126
cctgtctgtg ggcatctatg cagaggttga gcggcagaaa tataaaaccc 50
<210> 127
<211> 1636
<212> DNA
<213> Homo sapiens
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gaatcctcac tgaccaagga tgcccttgtg cttactccag cctccttgtg 1500 gaaacccagc tctcctgtct cccagtgaag acttggatgg cagccatcag 1550 ggaaggctgg gtcccagctg ggagtatggg tgtgagctct atagaccatc 1600 cctctctgca atcaataaac acttgcctgt gaaaaa 1636

<210> 128

<211> 484

<212> PRT

<213> Homo sapiens

<400> 128

Met Ala Gly Pro Trp Thr Phe Thr Leu Leu Cys Gly Leu Leu Ala 1 5 10 15

Ala Thr Leu Ile Gln Ala Thr Leu Ser Pro Thr Ala Val Leu Ile 20 25 30

Leu Gly Pro Lys Val Ile Lys Glu Lys Leu Thr Gln Glu Leu Lys 35 40 45

Asp His Asn Ala Thr Ser Ile Leu Gln Gln Leu Pro Leu Leu Ser 50 55 60

Ala Met Arg Glu Lys Pro Ala Gly Gly Ile Pro Val Leu Gly Ser
65 70 75

Leu Val Asn Thr Val Leu Lys His Ile Ile Trp Leu Lys Val Ile 80 85 90

Thr Ala Asn Ile Leu Gln Leu Gln Val Lys Pro Ser Ala Asn Asp 95 100 105

Gln Glu Leu Leu Val Lys Ile Pro Leu Asp Met Val Ala Gly Phe
110 115 120

Asn Thr Pro Leu Val Lys Thr Ile Val Glu Phe His Met Thr Thr 125 130 135

Glu Ala Gln Ala Thr Ile Arg Met Asp Thr Ser Ala Ser Gly Pro  $140 \,$  145  $\,$  150

Thr Arg Leu Val Leu Ser Asp Cys Ala Thr Ser His Gly Ser Leu 155 160 165

Arg Ile Gln Leu Leu Tyr Lys Leu Ser Phe Leu Val Asn Ala Leu 170 175 180

Ala Lys Gln Val Met Asn Leu Leu Val Pro Ser Leu Pro Asn Leu 185 190 195

Val Lys Asn Gln Leu Cys Pro Val Ile Glu Ala Ser Phe Asn Gly 200 205 210

Met Tyr Ala Asp Leu Leu Gln Leu Val Lys Val Pro Ile Ser Leu 215 220 225

Ser Ile Asp Arg Leu Glu Phe Asp Leu Leu Tyr Pro Ala Ile Lys Gly Asp Thr Ile Gln Leu Tyr Leu Gly Ala Lys Leu Leu Asp Ser Gln Gly Lys Val Thr Lys Trp Phe Asn Asn Ser Ala Ala Ser Leu 260 Thr Met Pro Thr Leu Asp Asn Ile Pro Phe Ser Leu Ile Val Ser 280 Gln Asp Val Val Lys Ala Ala Val Ala Ala Val Leu Ser Pro Glu 295 Glu Phe Met Val Leu Leu Asp Ser Val Leu Pro Glu Ser Ala His Arg Leu Lys Ser Ser Ile Gly Leu Ile Asn Glu Lys Ala Ala Asp Lys Leu Gly Ser Thr Gln Ile Val Lys Ile Leu Thr Gln Asp Thr Pro Glu Phe Phe Ile Asp Gln Gly His Ala Lys Val Ala Gln Leu Ile Val Leu Glu Val Phe Pro Ser Ser Glu Ala Leu Arg Pro Leu Phe Thr Leu Gly Ile Glu Ala Ser Ser Glu Ala Gln Phe Tyr Thr Lys Gly Asp Gln Leu Ile Leu Asn Leu Asn Asn Ile Ser Ser Asp Arg Ile Gln Leu Met Asn Ser Gly Ile Gly Trp Phe Gln Pro Asp 410 Val Leu Lys Asn Ile Ile Thr Glu Ile Ile His Ser Ile Leu Leu 430 Pro Asn Gln Asn Gly Lys Leu Arg Ser Gly Val Pro Val Ser Leu Val Lys Ala Leu Gly Phe Glu Ala Ala Glu Ser Ser Leu Thr Lys Asp Ala Leu Val Leu Thr Pro Ala Ser Leu Trp Lys Pro Ser Ser

Pro Val Ser Gln

<sup>&</sup>lt;210> 129

<sup>&</sup>lt;211> 2213

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<sup>&</sup>lt;213> Homo sapiens

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<210> 130

<211> 335

<212> PRT

<213> Homo sapiens

<400> 130

Met Ala Ala Arg Trp Arg Phe Trp Cys Val Ser Val Thr Met Val  $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$ 

Val Ala Leu Leu Ile Val Cys Asp Val Pro Ser Ala Ser Ala Gln
20 25 30

Arg Lys Lys Glu Met Val Leu Ser Glu Lys Val Ser Gln Leu Met 35 40 45

Glu Trp Thr Asn Lys Arg Pro Val Ile Arg Met Asn Gly Asp Lys 50 55 60

Phe Arg Arg Leu Val Lys Ala Pro Pro Arg Asn Tyr Ser Val Ile 65 70 75

Val Met Phe Thr Ala Leu Gln Leu His Arg Gln Cys Val Val Cys 80 85 90

Lys Gln Ala Asp Glu Glu Phe Gln Ile Leu Ala Asn Ser Trp Arg 95 100 105

Tyr Ser Ser Ala Phe Thr Asn Arg Ile Phe Phe Ala Met Val Asp Phe Asp Glu Gly Ser Asp Val Phe Gln Met Leu Asn Met Asn Ser Ala Pro Thr Phe Ile Asn Phe Pro Ala Lys Gly Lys Pro Lys Arg Gly Asp Thr Tyr Glu Leu Gln Val Arg Gly Phe Ser Ala Glu Gln Ile Ala Arg Trp Ile Ala Asp Arg Thr Asp Val Asn Ile Arg Val 175 Ile Arg Pro Pro Asn Tyr Ala Gly Pro Leu Met Leu Gly Leu Leu Leu Ala Val Ile Gly Gly Leu Val Tyr Leu Arg Arg Ser Asn Met Glu Phe Leu Phe Asn Lys Thr Gly Trp Ala Phe Ala Ala Leu Cys Phe Val Leu Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg 230 Gly Pro Pro Tyr Ala His Lys Asn Pro His Thr Gly His Val Asn Tyr Ile His Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Thr His Ile Val Leu Leu Phe Asn Gly Gly Val Thr Leu Gly Met Val Leu Leu Cys Glu Ala Ala Thr Ser Asp Met Asp Ile Gly Lys Arg Lys 300 Ile Met Cys Val Ala Gly Ile Gly Leu Val Val Leu Phe Phe Ser Trp Met Leu Ser Ile Phe Arg Ser Lys Tyr His Gly Tyr Pro Tyr Ser Phe Leu Met Ser

<210> 131

<211> 2476 <212> DNA

<213> Homo sapiens

<400> 131

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<210> 132

<211> 536

<212> PRT

<213> Homo sapiens

<400> 132

Met Leu Leu Trp Val Ser Val Val Ala Ala Leu Ala Leu Ala 1 5 10 15

Val Leu Ala Pro Gly Ala Gly Glu Gln Arg Arg Ala Ala Lys \$20\$ \$25\$ 30

Ala Pro Asn Val Val Leu Val Val Ser Asp Ser Phe Asp Gly Arg 35 40 45

Leu Thr Phe His Pro Gly Ser Gln Val Val Lys Leu Pro Phe Ile 50 55 60

Asn Phe Met Lys Thr Arg Gly Thr Ser Phe Leu Asn Ala Tyr Thr  $65 \hspace{1cm} 70 \hspace{1cm} 75$ 

Asn	Ser	Pro	Ile	Cys 80	Cys	Pro	Ser	Arg	Ala 85	Ala	Met	Trp	Ser	Gly 90
Leu	Phe	Thr	His	Leu 95	Thr	Glu	Ser	Trp	Asn 100	Asn	Phe	Lys	Gly	Leu 105
Asp	Pro	Asn	Tyr	Thr 110	Thr	Trp	Met	Asp	Val 115	Met	Glu	Arg	His	Gly 120
Tyr	Arg	Thr	Gln	Lys 125	Phe	Gly	Lys	Leu	Asp 130	Tyr	Thr	Ser	Gly	His 135
His	Ser	Ile	Ser	Asn 140	Arg	Val	Glu	Ala	Trp 145	Thr	Arg	Asp	Val	Ala 150
Phe	Leu	Leu	Arg	Gln 155	Glu	Gly	Arg	Pro	Met 160	Val	Asn	Leu	Ile	Arg 165
Asn	Arg	Thr	Lys	Val 170	Arg	Val	Met	Glu	Arg 175	Asp	Trp	Gln	Asn	Thr 180
Asp	Lys	Ala	Val	Asn 185	Trp	Leu	Arg	Lys	Glu 190	Ala	Ile	Asn	Tyr	Thr 195
Glu	Pro	Phe	Val	Ile 200	Tyr	Leu	Gly	Leu	Asn 205	Leu	Pro	His	Pro	Tyr 210
Pro	Ser	Pro	Ser	Ser 215	Gly	Glu	Asn	Phe	Gly 220	Ser	Ser	Thr	Phe	His 225
Thr	Ser	Leu	Tyr	Trp 230	Leu	Glu	Lys	Val	Ser 235	His	Asp	Ala	Ile	Lys 240
Ile	Pro	Lys	Trp	Ser 245	Pro	Leu	Ser	Glu	Met 250	His	Pro	Val	Asp	Tyr 255
Tyr	Ser	Ser	Tyr	Thr 260	Lys	Asn	Cys	Thr	Gly 265	Arg	Phe	Thr	Lys	Lys 270
Glu	Ile	Lys	Asn	Ile 275	Arg	Ala	Phe	Tyr	Tyr 280	Ala	Met	Cys	Ala	Glu 285
Thr	Asp	Ala	Met	Leu 290	Gly	Glu	Ile	Ile	Leu 295	Ala	Leu	His	Gln	Leu 300
Asp	Leu	Leu	Gln	Lys 305	Thr	Ile	Val	Ile	Tyr 310	Ser	Ser	Asp	His	Gly 315
Glu	Leu	Ala	Met	Glu 320	His	Arg	Gln	Phe	Tyr 325	Lys	Met	Ser	Met	Tyr 330
Glu	Ala	Ser	Ala	His 335	Val	Pro	Leu	Leu	Met 340	Met	Gly	Pro	Gly	Ile 345
Lys	Ala	Gly	Leu	Gln 350	Val	Ser	Asn	Val	Val 355	Ser	Leu	Val	Asp	Ile 360
Tyr	Pro	Thr	Met	Leu	Asp	Ile	Ala	Gly	Ile	Pro	Leu	Pro	Gln	Asn

			365					370					375
Leu S	er Gly	Tyr	Ser 380	Leu	Leu	Pro	Leu	Ser 385	Ser	Glu	Thr	Phe	Lys 390
Asn G	lu His	Lys	Val 395	Lys	Asn	Leu	His	Pro 400	Pro	Trp	Ile	Leu	Ser 405
Glu Pl	ne His	Gly	Cys 410	Asn	Val	Asn	Ala	Ser 415	Thr	Tyr	Met	Leu	Arg 420
Thr A	sn His	Trp	Lys 425	Tyr	Ile	Ala	Tyr	Ser 430	Asp	Gly	Ala	Ser	Ile 435
Leu P	ro Gln	Leu	Phe 440	Asp	Leu	Ser	Ser	Asp 445	Pro	Asp	Glu	Leu	Thr 450
Asn Va	al Ala	Val	Lys 455	Phe	Pro	Glu	Ile	Thr 460	Tyr	Ser	Leu	Asp	Gln 465
Lys L	eu His	Ser	Ile 470	Ile	Asn	Tyr	Pro	Lys 475	Val	Ser	Ala	Ser	Val 480
His G	ln Tyr	Asn	Lys 485	Glu	Gln	Phe	Ile	Lys 490	Trp	Lys	Gln	Ser	Ile 495
Gly G	ln Asn	Tyr	Ser 500	Asn	Val	Ile	Ala	Asn 505	Leu	Arg	Trp	His	Gln 510
Asp T	rp Gln	Lys	Glu 515	Pro	Arg	Lys	Tyr	Glu 520	Asn	Ala	Ile	Asp	Gln 525
Trp Le	eu Lys	Thr	His 530	Met	Asn	Pro	Arg	Ala 535	Val				
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4												4	

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<210> 134

<211> 230

<212> PRT

<213> Homo sapiens

<400> 134

Met Ala Ser Leu Gly Leu Gln Leu Val Gly Tyr Ile Leu Gly Leu
1 5 10 15

Leu Gly Leu Leu Gly Thr Leu Val Ala Met Leu Leu Pro Ser Trp 20 25 30

Lys Thr Ser Ser Tyr Val Gly Ala Ser Ile Val Thr Ala Val Gly \$35\$ \$40\$ \$45\$

Phe Ser Lys Gly Leu Trp Met Glu Cys Ala Thr His Ser Thr Gly

50 55 60 Ile Thr Gln Cys Asp Ile Tyr Ser Thr Leu Leu Gly Leu Pro Ala Asp Ile Gln Ala Ala Gln Ala Met Met Val Thr Ser Ser Ala Ile 85 Ser Ser Leu Ala Cys Ile Ile Ser Val Val Gly Met Arg Cys Thr 95 100 Val Phe Cys Gln Glu Ser Arg Ala Lys Asp Arg Val Ala Val Ala 115 Gly Gly Val Phe Phe Ile Leu Gly Gly Leu Leu Gly Phe Ile Pro Val Ala Trp Asn Leu His Gly Ile Leu Arg Asp Phe Tyr Ser Pro Leu Val Pro Asp Ser Met Lys Phe Glu Ile Gly Glu Ala Leu Tyr Leu Gly Ile Ile Ser Ser Leu Phe Ser Leu Ile Ala Gly Ile Ile Leu Cys Phe Ser Cys Ser Ser Gln Arg Asn Arg Ser Asn Tyr Tyr 190 Asp Ala Tyr Gln Ala Gln Pro Leu Ala Thr Arg Ser Ser Pro Arg Pro Gly Gln Pro Pro Lys Val Lys Ser Glu Phe Asn Ser Tyr Ser Leu Thr Gly Tyr Val

<210> 135

<211> 610

<212> DNA

<213> Homo sapiens

<400> 135

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<210> 136

<211> 119

<212> PRT

<213> Homo sapiens

<400> 136

Met Val Pro Arg Ile Phe Ala Pro Ala Tyr Val Ser Val Cys Leu 1 5 10 15

Leu Leu Cys Pro Arg Glu Val Ile Ala Pro Ala Gly Ser Glu
20 25 30

Pro Trp Leu Cys Gln Pro Ala Pro Arg Cys Gly Asp Lys Ile Tyr 35 40 45

Asn Pro Leu Glu Gln Cys Cys Tyr Asn Asp Ala Ile Val Ser Leu 50 55 60

Ser Glu Thr Arg Gln Cys Gly Pro Pro Cys Thr Phe Trp Pro Cys
65 70 75

Phe Glu Leu Cys Cys Leu Asp Ser Phe Gly Leu Thr Asn Asp Phe 80 85 90

Val Val Lys Leu Lys Val Gln Gly Val Asn Ser Gln Cys His Ser 95 100 105

Ser Pro Ile Ser Ser Lys Cys Glu Ser Arg Arg Phe Pro  $110 \\ \hspace{1.5cm} 115$ 

<210> 137

<211> 771

<212> DNA

<213> Homo sapiens

<400> 137

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agaactgcga ctcagcccgg acctcggatg acaggctttg tcgcagtgtc 350 agctaatgga acatcagggg aacgatgact cctggattct ccttcctggg 400 tgggcctgga gaaagaggct ggtgttacct gagatctggg atgctgagtg 450 gctgtttggg ggccagagaa acacacactc aactgcccac ttcattctgt 500 gacctgtctg aggcccaccc tgcagctgcc ctgaggaggc ccacaggtcc 550 ccttctagaa ttctggacag catgagatg gtgtgctgat gggggcccag 600 ggactctgaa ccctcctgat gacccctatg gccaacatca acccggcacc 650 accccaaggc tggctggga acccttcacc cttctgtgag attttccatc 700 atctcaagtt ctcttctatc caggagcaaa gcacaggatc ataataaatt 750 tatgtacttt ataaatgaaa a 771

<210> 138

<211> 110

<212> PRT

<213> Homo sapiens

<400> 138

Met Ala Pro Arg Gly Cys Ile Val Ala Val Phe Ala Ile Phe Cys 1 5 10 15

Ile Ser Arg Leu Cys Ser His Gly Ala Pro Val Ala Pro Met 20 25 30

Thr Pro Tyr Leu Met Leu Cys Gln Pro His Lys Arg Cys Gly Asp 35 40 45

Lys Phe Tyr Asp Pro Leu Gln His Cys Cys Tyr Asp Asp Ala Val 50 55 60

Val Pro Leu Ala Arg Thr Gln Thr Cys Gly Asn Cys Thr Phe Arg
65 70 75

Val Cys Phe Glu Gln Cys Cys Pro Trp Thr Phe Met Val Lys Leu  $\cdot 80$  85 90

Ile Asn Gln Asn Cys Asp Ser Ala Arg Thr Ser Asp Asp Arg Leu 95 100 105

Cys Arg Ser Val Ser 110

<210> 139

<211> 2044

<212> DNA

<213> Homo sapiens

<400> 139

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<210> 140

<211> 311

<212> PRT

<213> Homo sapiens

<400> 140

Met Gly Val Pro Thr Ala Leu Glu Ala Gly Ser Trp Arg Trp Gly
1 5 10 15

Ser Leu Leu Phe Ala Leu Phe Leu Ala Ala Ser Leu Gly Pro Val $20 \hspace{1cm} 25 \hspace{1cm} 30$ 

Ala Ala Phe Lys Val Ala Thr Pro Tyr Ser Leu Tyr Val Cys Pro
35 40 45

Glu Gly Gln Asn Val Thr Leu Thr Cys Arg Leu Leu Gly Pro Val
50 55 60

Asp Lys Gly His Asp Val Thr Phe Tyr Lys Thr Trp Tyr Arg Ser 65 70 75

Ser Arg Gly Glu Val Gln Thr Cys Ser Glu Arg Arg Pro Ile Arg 80 85 90

Asn Leu Thr Phe Gln Asp Leu His Leu His His Gly Gly His Gln 95 100

Ala Ala Asn Thr Ser His Asp Leu Ala Gln Arg His Gly Leu Glu
110 115 120

Ser Ala Ser Asp His His Gly Asn Phe Ser Ile Thr Met Arg Asn 125 130 135

Leu Thr Leu Leu Asp Ser Gly Leu Tyr Cys Cys Leu Val Val Glu

			140					145					150
Ile Arg	His	His	His 155	Ser	Glu	His	Arg	Val 160	His	Gly	Ala	Met	Glu 165
Leu Gln	Val	Gln	Thr 170	Gly	Lys	Asp	Ala	Pro 175	Ser	Asn	Cys	Val	Val 180
Tyr Pro	Ser	Ser	Ser 185	Gln	Asp	Ser	Glu	Asn 190	Ile	Thr	Ala	Ala	Ala 195
Leu Ala	Thr	Gly	Ala 200	Cys	Ile	Val	Gly	Ile 205	Leu	Суз	Leu	Pro	Leu 210
Ile Leu	Leu	Leu	Val 215	Tyr	Lys	Gln	Arg	Gln 220	Ala	Ala	Ser	Asn	Arg 225
Arg Ala	Gln	Glu	Leu 230	Val	Arg	Met	Asp	Ser 235	Asn	Ile	Gln	Gly	Ile 240
Glu Asn	Pro	Gly	Phe 245	Glu	Ala	Ser	Pro	Pro 250	Ala	Gln	Gly	Ile	Pro 255
Glu Ala	Lys	Val	Arg 260	His	Pro	Leu	Ser	Tyr 265	Val	Ala	Gln	Arg	Gln 270
Pro Ser	Glu	Ser	Gly 275	Arg	His	Leu	Leu	Ser 280	Glu	Pro	Ser	Thr	Pro 285
Leu Ser	Pro	Pro	Gly 290	Pro	Gly	Asp	Val	Phe 295	Phe	Pro	Ser	Leu	Asp 300
Pro Val	Pro	Asp	Ser 305	Pro	Asn	Phe	Glu	Val 310	Ile				
Z210N 14	1												

<210> 141

<211> 1732

<212> DNA

<213> Homo sapiens

<400> 141

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cttagacctc ccttcctgcc ctcctttcct gcccaccgct gcttcctggc 150
ccttctccga ccccgctcta gcagcagacc tcctggggtc tgtgggttga 200
tctgtggccc ctgtgcctcc gtgtcctttt cgtctccctt cctcccgact 250
ccgctcccgg accagcggcc tgaccctggg gaaaggatgg ttcccgaggt 300
gagggtcctc tcctccttgc tgggactcgc gctgctctgg ttccccctgg 350
actcccacgc tcgagcccgc ccagacatgt tctgcctttt ccatgggaag 400
aqatactccc ccgqcgagag ctggcacccc tacttggagc cacaaggcct 450

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gatgtactgc ctgcgctgta cctgctcaga gggcgcccat gtgagttgtt 500
accgcctcca ctgtccgcct gtccactgcc cccagcctgt gacggagcca 550
cagcaatgct gtcccaagtg tgtggaacct cacactccct ctggactccg 600
ggccccacca aagtcctgcc agcacaacgg gaccatgtac caacacggag 650
agatetteag tgeceatgag etgtteecet eeegeetgee caaccagtgt 700
gtcctctgca gctgcacaga gggccagatc tactgcggcc tcacaacctg 750
ccccgaacca ggctgcccag cacccctccc actgccagac tcctgctgcc 800
aagcctgcaa agatgaggca agtgagcaat cggatgaaga ggacagtgtg 850
cagtcgctcc atggggtgag acatcctcag gatccatgtt ccagtgatgc 900
tgggagaaag agaggcccgg gcaccccagc ccccactggc ctcagcgccc 950
ctctgagctt catccctcgc cacttcagac ccaagggagc aggcagcaca 1000
actgtcaaga tcgtcctgaa ggagaaacat aagaaagcct gtgtgcatgg 1050
egggaagaeg tacteecaeg gggaggtgtg geacceggee tteegtgeet 1100
teggeeett geeetgeate etatgeacet gtgaggatgg eegeeaggae 1150
tgccagcgtg tgacctgtcc caccgagtac ccctgccgtc accccgagaa 1200
agtggctggg aagtgctgca agatttgccc agaggacaaa gcagaccctg 1250
gccacagtga gatcagttct accaggtgtc ccaaggcacc gggccgggtc 1300
ctcgtccaca catcggtatc cccaagccca gacaacctgc gtcgctttgc 1350
cctggaacac gaggcctcgg acttggtgga gatctacctc tggaagctgg 1400
taaaagatga ggaaactgag gctcagagag gtgaagtacc tggcccaagg 1450
ccacacagcc agaatcttcc acttgactca gatcaagaaa gtcaggaagc 1500
aagactteca gaaagaggea cagcacttee gactgetege tggcccccac 1550
gaaggtcact ggaacgtctt cctagcccag accctggagc tgaaggtcac 1600
ggccagtcca gacaaagtga ccaagacata acaaagacct aacagttgca 1650
gatatgagct gtataattgt tgttattata tattaataaa taagaagttg 1700
cattaccctc aaaaaaaaaa aaaaaaaaaa aa 1732
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<sup>&</sup>lt;210> 142

<sup>&</sup>lt;211> 451

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 142

Met Val Pro Glu Val Arg Val Leu Ser Ser Leu Leu Gly Leu Ala Leu Leu Trp Phe Pro Leu Asp Ser His Ala Arg Ala Arg Pro Asp Met Phe Cys Leu Phe His Gly Lys Arg Tyr Ser Pro Gly Glu Ser Trp His Pro Tyr Leu Glu Pro Gln Gly Leu Met Tyr Cys Leu Arg Cys Thr Cys Ser Glu Gly Ala His Val Ser Cys Tyr Arg Leu His Cys Pro Pro Val His Cys Pro Gln Pro Val Thr Glu Pro Gln Gln Cys Cys Pro Lys Cys Val Glu Pro His Thr Pro Ser Gly Leu Arg Ala Pro Pro Lys Ser Cys Gln His Asn Gly Thr Met Tyr Gln His Gly Glu Ile Phe Ser Ala His Glu Leu Phe Pro Ser Arg Leu Pro 135 Asn Gln Cys Val Leu Cys Ser Cys Thr Glu Gly Gln Ile Tyr Cys Gly Leu Thr Thr Cys Pro Glu Pro Gly Cys Pro Ala Pro Leu Pro Leu Pro Asp Ser Cys Cys Gln Ala Cys Lys Asp Glu Ala Ser Glu Gln Ser Asp Glu Glu Asp Ser Val Gln Ser Leu His Gly Val Arg 195 His Pro Gln Asp Pro Cys Ser Ser Asp Ala Gly Arg Lys Arg Gly Pro Gly Thr Pro Ala Pro Thr Gly Leu Ser Ala Pro Leu Ser Phe Ile Pro Arg His Phe Arg Pro Lys Gly Ala Gly Ser Thr Thr Val Lys Ile Val Leu Lys Glu Lys His Lys Lys Ala Cys Val His Gly Gly Lys Thr Tyr Ser His Gly Glu Val Trp His Pro Ala Phe Arg Ala Phe Gly Pro Leu Pro Cys Ile Leu Cys Thr Cys Glu Asp Gly 285 Arg Gln Asp Cys Gln Arg Val Thr Cys Pro Thr Glu Tyr Pro Cys

	290	295	300
Arg His Pro Glu	Lys Val Ala 305	Gly Lys Cys Cys 310	Lys Ile Cys Pro 315
Glu Asp Lys Ala	Asp Pro Gly 320	His Ser Glu Ile 8	Ser Ser Thr Arg 330
Cys Pro Lys Ala	Pro Gly Arg 335	Val Leu Val His '	Thr Ser Val Ser 345
Pro Ser Pro Asp	Asn Leu Arg 350	Arg Phe Ala Leu (	Glu His Glu Ala 360
Ser Asp Leu Val	Glu Ile Tyr 365	Leu Trp Lys Leu 370	Val Lys Asp Glu 375
Glu Thr Glu Ala	Gln Arg Gly 380	Glu Val Pro Gly 385	Pro Arg Pro His 390
Ser Gln Asn Leu	Pro Leu Asp 395	Ser Asp Gln Glu 400	Ser Gln Glu Ala 405
Arg Leu Pro Glu	Arg Gly Thr 410	Ala Leu Pro Thr 2	Ala Arg Trp Pro 420
Pro Arg Arg Sei	Leu Glu Arg 425	Leu Pro Ser Pro 2 430	Asp Pro Gly Ala 435
Glu Gly His Gly	Gln Ser Arg 440	Gln Ser Asp Gln : 445	Asp Ile Thr Lys 450
Thr			

<210> 143 <211> 693

<212> DNA

<213> Homo sapiens

<400> 143

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<210> 144

<211> 93

<212> PRT

<213> Homo sapiens

<400> 144

Met Asp Ser Leu Arg Lys Met Leu Ile Ser Val Ala Met Leu Gly 1 5 10 15

Ala Gly Ala Gly Val Gly Tyr Ala Leu Leu Val Ile Val Thr Pro  $20 \\ 25 \\ 30$ 

Gly Glu Arg Arg Lys Gln Glu Met Leu Lys Glu Met Pro Leu Gln 35 40 45

Asp Pro Arg Ser Arg Glu Glu Ala Ala Arg Thr Gln Gln Leu Leu 50 55 60

Leu Ala Thr Leu Gln Glu Ala Ala Thr Thr Gln Glu Asn Val Ala 65 70 75

Trp Arg Lys Asn Trp Met Val Gly Gly Glu Gly Gly Ala Ser Gly 80 85 90

Arg Ser Pro

<210> 145

<211> 1883

<212> DNA

<213> Homo sapiens

<400> 145

caggagagaa ggcaccgcc ccacccgcc tccaaagcta accetcggc 50
ttgaggggaa gaggctgact gtacgttect tctactctgg caccactctc 100
caggctgcca tgggggcccag cacccctctc ctcatcttgt tccttttgtc 150
atggtcggga cccctccaag gacagcagca ccaccttgtg gagtacatgg 200
aacgccgact agctgctta gaggaacggc tggcccagtg ccaggaccag 250
agtagtcggc atgctgctga gctgcgggac ttcaagaaca agatgctgcc 300
actgctggag gtggcagaga aggagcggga ggcactcaga actgaggccg 350
acaccatctc cgggagagtg gatcgtctgg agcgggaggt agactatctg 400

gagacccaga acccagctct gccctgtgta gagtttgatg agaaggtgac 450 tggaggccct gggaccaaag gcaagggaag aaggaatgag aagtacgata 500 tggtgacaga ctgtggctac acaatctctc aagtgagatc aatgaagatt 550 ctgaagcgat ttggtggccc agctggtcta tggaccaagg atccactggg 600 gcaaacagag aagatctacg tgttagatgg gacacagaat gacacagcct 650 ttgtcttccc aaggetgegt gacttcaccc ttgccatggc tgcccggaaa 700 gcttcccgag tccgggtgcc cttcccctgg gtaggcacag ggcagctggt 750 atatggtggc tttctttatt ttgctcggag gcctcctgga agacctggtg 800 gaggtggtga gatggagaac actttgcagc taatcaaatt ccacctggca 850 aaccgaacag tggtggacag ctcagtattc ccagcagagg ggctgatccc 900 cccctacggc ttgacagcag acacctacat cgacctggta gctgatgagg 950 aaggtetttg ggetgtetat gecaceeggg aggatgaeag geacttgtgt 1000 ctggccaagt tagatccaca gacactggac acagagcagc agtgggacac 1050 accatgtccc agagagaatg ctgaggctgc ctttgtcatc tgtgggaccc 1100 tetatgtegt etataacace egteetgeea gtegggeeeg catecagtge 1150 tcctttgatg ccagcggcac cctgacccct gaacgggcag cactccctta 1200 ttttccccgc agatatggtg cccatgccag cctccgctat aacccccgag 1250 aacgccagct ctatgcctgg gatgatggct accagattgt ctataagctg 1300 gagatgagga agaaagagga ggaggtttga ggagctagcc ttgttttttg 1350 catctttctc actcccatac atttatatta tatccccact aaatttcttg 1400 ttcctcattc ttcaaatgtg ggccagttgt ggctcaaatc ctctatattt 1450 ttagccaatg gcaatcaaat tctttcagct cctttgtttc atacggaact 1500 ccagatcctg agtaatcctt ttagagcccg aagagtcaaa accctcaatg 1550 ttccctcctg ctctcctgcc ccatgtcaac aaatttcagg ctaaggatgc 1600 cccagaccca gggctctaac cttgtatgcg ggcaggccca gggagcaggc 1650 agcagtgttc ttcccctcag agtgacttgg ggagggagaa ataggaggag 1700 acgtccagct ctgtcctctc ttcctcactc ctcccttcag tgtcctgagg 1750 aacaggactt tctccacatt gttttgtatt gcaacatttt gcattaaaag 1800 

## aaaaaaaaaa aaaaaaaaaa aaa 1883

<210> 146

<211> 406

<212> PRT

<213> Homo sapiens

<400> 146

Met Gly Pro Ser Thr Pro Leu Leu Ile Leu Phe Leu Leu Ser Trp
1 5 10 15

Ser Gly Pro Leu Gln Gly Gln Gln His His Leu Val Glu Tyr Met 20 25 30

Glu Arg Arg Leu Ala Ala Leu Glu Glu Arg Leu Ala Gln Cys Gln 35 40 45

Asp Gln Ser Ser Arg His Ala Ala Glu Leu Arg Asp Phe Lys Asn 50 55 60

Lys Met Leu Pro Leu Leu Glu Val Ala Glu Lys Glu Arg Glu Ala  $65 \hspace{1cm} 70 \hspace{1cm} 75$ 

Leu Arg Thr Glu Ala Asp Thr Ile Ser Gly Arg Val Asp Arg Leu 80 85 90

Glu Arg Glu Val Asp Tyr Leu Glu Thr Gln Asn Pro Ala Leu Pro 95 100 105

Cys Val Glu Phe Asp Glu Lys Val Thr Gly Gly Pro Gly Thr Lys 110 115 120

Gly Lys Gly Arg Arg Asn Glu Lys Tyr Asp Met Val Thr Asp Cys 125 130 135

Gly Tyr Thr Ile Ser Gln Val Arg Ser Met Lys Ile Leu Lys Arg 140 145 150

Phe Gly Gly Pro Ala Gly Leu Trp Thr Lys Asp Pro Leu Gly Gln 155 160 165

Thr Glu Lys Ile Tyr Val Leu Asp Gly Thr Gln Asn Asp Thr Ala 170 175 180

Phe Val Phe Pro Arg Leu Arg Asp Phe Thr Leu Ala Met Ala Ala 185 190 195

Arg Lys Ala Ser Arg Val Arg Val Pro Phe Pro Trp Val Gly Thr 200 205

Gly Gln Leu Val Tyr Gly Gly Phe Leu Tyr Phe Ala Arg Arg Pro

Pro Gly Arg Pro Gly Gly Gly Glu Met Glu Asn Thr Leu Gln 230 235 240

Leu Ile Lys Phe His Leu Ala Asn Arg Thr Val Val Asp Ser Ser 245 250 255

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Val Phe Pro Ala Glu Gly Leu Ile Pro Pro Tyr Gly Leu Thr Ala
Asp Thr Tyr Ile Asp Leu Val Ala Asp Glu Glu Gly Leu Trp Ala
                275
Val Tyr Ala Thr Arg Glu Asp Asp Arg His Leu Cys Leu Ala Lys
                                                         300
Leu Asp Pro Gln Thr Leu Asp Thr Glu Gln Gln Trp Asp Thr Pro
                                                         315
                305
Cys Pro Arg Glu Asn Ala Glu Ala Ala Phe Val Ile Cys Gly Thr
                                                         330
                                    325
Leu Tyr Val Val Tyr Asn Thr Arg Pro Ala Ser Arg Ala Arg Ile
                                                         345
Gln Cys Ser Phe Asp Ala Ser Gly Thr Leu Thr Pro Glu Arg Ala
                350
Ala Leu Pro Tyr Phe Pro Arg Arg Tyr Gly Ala His Ala Ser Leu
Arg Tyr Asn Pro Arg Glu Arg Gln Leu Tyr Ala Trp Asp Asp Gly
Tyr Gln Ile Val Tyr Lys Leu Glu Met Arg Lys Lys Glu Glu Glu
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Val

<210> 147 <211> 2052 <212> DNA <213> Homo sapiens

<400> 147

gacagetgtg tetegatgga gtagaetete agaacagege agtttgeeet 50 cegeteacge agageetete egtggettee geacettgag cattaggeea 100 gtteteetet tetetetaat eeateegtea eeteteetgt cateegttee 150 catgeegtga ggteeattea eagaacacat eeatggetet eatgeteagt 200 ttggttetga gteteeteaa getgggatea gggeagtgge aggtgtttgg 250 geeagacaag eetgteeagg eettggtgg ggaggaegea geatteteet 300 gttteetgte teetaagaee aatgeagagg eeatggaagt geggttete 350 aggggeeagt tetetagegt ggteeacete tacagggaeg ggaaggaeca 400 geeatttatg eagatgeeae agtateaagg eaggaeaaaa etggtgaagg 450 attetattge ggaggggege atetetetga ggetggaaaa eattaetgtg 500

ttggatgctg gcctctatgg gtgcaggatt agttcccagt cttactacca 550 gaaggccatc tgggagctac aggtgtcagc actgggctca gttcctctca 600 tttccatcac gggatatgtt gatagagaca tccagctact ctgtcagtcc 650 togggotggt toccooggeo cacagogaag tggaaaggto cacaaggaca 700 ggatttgtcc acagactcca ggacaaacag agacatgcat ggcctgtttg 750 atgtggagat ctctctgacc gtccaagaga acgccgggag catatcctgt 800 tccatgcggc atgctcatct gagccgagag gtggaatcca gggtacagat 850 aggagatacc tttttcgagc ctatatcgtg gcacctggct accaaagtac 900 tgggaatact ctgctgtggc ctattttttg gcattgttgg actgaagatt 950 ttcttctcca aattccagtg gaaaatccag gcggaactgg actggagaag 1000 aaagcacgga caggcagaat tgagagacgc ccggaaacac gcagtggagg 1050 tgactctgga tccagagacg gctcacccga agctctgcgt ttctgatctg 1100 aaaactgtaa cccatagaaa agctccccag gaggtgcctc actctgagaa 1150 gagatttaca aggaagagtg tggtggcttc tcagagtttc caagcaggga 1200 aacattactg ggaggtggac ggaggacaca ataaaaggtg gcgcgtggga 1250 gtgtgccggg atgatgtgga caggaggaag gagtacgtga ctttgtctcc 1300 cgatcatggg tactgggtcc tcagactgaa tggagaacat ttgtatttca 1350 cattaaatcc ccgttttatc agcgtcttcc ccaggacccc acctacaaaa 1400 ataggggtct tcctggacta tgagtgtggg accatctcct tcttcaacat 1450 aaatgaccag teeettattt ataeeetgae atgteggttt gaaggettat 1500 tgaggcccta cattgagtat ccgtcctata atgagcaaaa tggaactccc 1550 atagtcatct gcccagtcac ccaggaatca gagaaagagg cctcttggca 1600 aagggcctct gcaatcccag agacaagcaa cagtgagtcc tcctcacagg 1650 caaccacgcc cttcctcccc aggggtgaaa tgtaggatga atcacatccc 1700 acattettet ttagggatat taaggtetet eteccagate caaagteeeg 1750 cagcagccgg ccaaggtggc ttccagatga agggggactg gcctgtccac 1800 atgggagtca ggtgtcatgg ctgccctgag ctgggaggga agaaggctga 1850 cattacattt agtttgctct cactccatct ggctaagtga tcttgaaata 1900 ccacctctca ggtgaagaac cgtcaggaat tcccatctca caggctgtgg 1950

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<210> 148

<211> 500

<212> PRT

<213> Homo sapiens

<400> 148

Met Ala Leu Met Leu Ser Leu Val Leu Ser Leu Leu Lys Leu Gly
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Ser Gly Gln Trp Gln Val Phe Gly Pro Asp Lys Pro Val Gln Ala 20 25 30

Leu Val Gly Glu Asp Ala Ala Phe Ser Cys Phe Leu Ser Pro Lys 35 40 45

Thr Asn Ala Glu Ala Met Glu Val Arg Phe Phe Arg Gly Gln Phe 50 55 60

Ser Ser Val Val His Leu Tyr Arg Asp Gly Lys Asp Gln Pro Phe 65 70 75

Met Gln Met Pro Gln Tyr Gln Gly Arg Thr Lys Leu Val Lys Asp . 80 85 90

Ser Ile Ala Glu Gly Arg Ile Ser Leu Arg Leu Glu Asn Ile Thr 95 100 105

Val Leu Asp Ala Gly Leu Tyr Gly Cys Arg Ile Ser Ser Gln Ser 110 115 120

Tyr Tyr Gln Lys Ala Ile Trp Glu Leu Gln Val Ser Ala Leu Gly
125 130 135

Ser Val Pro Leu Ile Ser Ile Thr Gly Tyr Val Asp Arg Asp Ile 140 145 150

Gln Leu Leu Cys Gln Ser Ser Gly Trp Phe Pro Arg Pro Thr Ala 155 160 165

Lys Trp Lys Gly Pro Gln Gly Gln Asp Leu Ser Thr Asp Ser Arg 170 175 180

Thr Asn Arg Asp Met His Gly Leu Phe Asp Val Glu Ile Ser Leu 185 190 195

Thr Val Gln Glu Asn Ala Gly Ser Ile Ser Cys Ser Met Arg His 200 205 210

Ala His Leu Ser Arg Glu Val Glu Ser Arg Val Gln Ile Gly Asp 215 220 225

Thr Phe Phe Glu Pro Ile Ser Trp His Leu Ala Thr Lys Val Leu

				230					235					240
Gly	Ile	Leu	Cys	Cys 245	Gly	Leu	Phe	Phe	Gly 250	Ile	Val	Gly	Leu	Lys 255
Ile	Phe	Phe	Ser	Lys 260	Phe	Gln	Trp	Lys	Ile 265	Gln	Ala	Glu	Leu	Asp 270
Trp	Arg	Arg	Lys	His 275	Gly	Gln	Ala	Glu	Leu 280	Arg	Asp	Ala	Arg	Lys 285
His	Ala	Val	Glu	Val 290	Thr	Leu	Asp	Pro	Glu 295	Thr	Ala	His	Pro	Lys 300
Leu	Cys	Val	Ser	Asp 305	Leu	Lys	Thr	Val	Thr 310	His	Arg	Lys	Ala	Pro 315
Gln	Glu	Val	Pro	His 320	Ser	Glu	Lys	Arg	Phe 325	Thr	Arg	Lys	Ser	Val 330
Val	Ala	Ser	Gln	Ser 335	Phe	Gln	Ala	Gly	Lys 340	His	Tyr	Trp	Glu	Val 345
Asp	Gly	Gly	His	Asn 350	Lys	Arg	Trp	Arg	Val 355	Gly	Val	Cys	Arg	Asp 360
Asp	Val	Asp	Arg	Arg 365	Lys	Glu	Tyr	Val	Thr 370	Leu	Ser	Pro	Asp	His 375
Gly	Tyr	Trp	Val	Leu 380	Arg	Leu	Asn	Gly	Glu 385	His	Leu	Tyr	Phe	Thr 390
Leu	Asn	Pro	Arg	Phe 395	Ile	Ser	Val	Phe	Pro 400	Arg	Thr	Pro	Pro	Thr 405
Lys	Ile	Gly	Val	Phe 410	Leu	Asp	Tyr	Glu	Cys 415	Gly	Thr	Ile	Ser	Phe 420
Phe	Asn	Ile	Asn	Asp 425	Gln	Ser	Leu	Ile	Tyr 430	Thr	Leu	Thr	Cys	Arg 435
Phe	Glu	Gly	Leu	Leu 440	Arg	Pro	Tyr	Ile	Glu 445	Tyr	Pro	Ser	Tyr	Asn 450
Glu	Gln	Asn	Gly	Thr 455	Pro	Ile	Val	Ile	Cys 460	Pro	Val	Thr	Gln	Glu 465
Ser	Glu	Lys	Glu	Ala 470	Ser	Trp	Gln	Arg	Ala 475	Ser	Ala	Ile	Pro	Glu 480
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Pro	Arg	Gly	Glu	Met 500										
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 aatgaatggc ggagccgagc gcgccatgag gagcctgccg agcctgggcg 150
 gectegeect gttgtgetge geegeegeeg eegeegeegt egeeteagee 200
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 cgcgtcgccg ggccccgggt tgcggggcga gcccagccac cccttcccta 300
 gggcgacggc tcccacggcc caggccccga ggaccgggcc cccgcgcgcc 350
 acceptcace gacceetgge tgcgacttet ccaqcecagt ecceggagae 400
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caccectett tgggegaetg etggaeeete ttecaccace ttteaggege 450 cgctcggccc ctcgccgacc acccctccgg cggcggaacg cacttcgacc 500 acctctcagg cgccgaccag acccgcgccg accacccttt cgacgaccac 550 tggcccggcg ccgaccaccc ctgtagcgac caccgtaccg gcgcccacga 600 ctccccggac cccgaccccc gatctcccca gcagcagcaa cagcagcgtc 650 ctecceacec caectqceac egaggeeece tettegeete etceagagta 700 tgtatgtaac tgctctgtgg ttggaagcct gaatgtgaat cgctgcaacc 750 agaccacagg gcagtgtgag tgtcggccag gttatcaggg gcttcactgt 800 gaaacctgca aagagggctt ttacctaaat tacacttctg ggctctgtca 850 qccatqtgac tgtagtccac atggagctct cagcataccg tgcaacaggt 900 aagcaacaga gggtggaact gaagtttatt ttattttagc aagggaaaaa 950 aaaaggctgc tactctcaag gaccatactg gtttaaacaa aggaggatga 1000 gggtcataga tttacaaaat attttatata cttttattct cttactttat 1050 atgttatatt taatgtcagg atttaaaaac atctaattta ctgatttagt 1100 tottcaaaag cactagagto gocaattttt ototgggata atttotgtaa 1150 atttcatggg aaaaaattat tgaagaataa atctgctttc tggaagggct 1200 ttcaggcatg aaacctgcta ggaggtttag aaatgttctt atgtttatta 1250 atataccatt ggagtttgag gaaatttgtt gtttggttta tttttctctc 1300 taatcaaaat totacatttg tttctttgga catctaaagc ttaacctggg 1350 ggtaccctaa tttatttaac tagtggtaag tagactggtt ttactctatt 1400 taccagtaca tttttgagac caaaagtaga ttaagcagga attatcttta 1450 aactattatg ttatttggag gtaatttaat ctagtggaat aatgtactgt 1500 tatctaagca tttgccttgt actgcactga aagtaattat tctttgacct 1550 tatgtgaggc acttggcttt ttgtggaccc caagtcaaaa aactgaagag 1600 acagtattaa ataatgaaaa aaataatgac aggttatact cagtgtaacc 1650 tgggtataac ccaagatctg ctgccactta cgagctgtgt tccttgggca 1700 agtaatttcc tttcactgag cttgtttctt ctcaaggttg ttgtgaagat 1750 taaatgagtt gatatatata aaatgcctag cacatgtcac tcaataaatt 1800 ctggtttgtt ttaatttcaa aggaatatta tggactgaaa tgagagaaca 1850

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<211> 258

<212> PRT

<213> Homo sapiens

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Val Thr Gly Gly Gly Ala Ala Gly Gln Val Asp Ala Ser Pro 35 40 45

Gly Pro Gly Leu Arg Gly Glu Pro Ser His Pro Phe Pro Arg Ala 50 55 60

Thr Ala Pro Thr Ala Gln Ala Pro Arg Thr Gly Pro Pro Arg Ala
65 70 75

Thr Val His Arg Pro Leu Ala Ala Thr Ser Pro Ala Gln Ser Pro 80  $\,$  85  $\,$  90

Glu Thr Thr Pro Leu Trp Ala Thr Ala Gly Pro Ser Ser Thr Thr  $95\,$ 

Phe Gln Ala Pro Leu Gly Pro Ser Pro Thr Thr Pro Pro Ala Ala 110 115 120

Glu Arg Thr Ser Thr Thr Ser Gln Ala Pro Thr Arg Pro Ala Pro 125 130 135

Thr Thr Leu Ser Thr Thr Gly Pro Ala Pro Thr Thr Pro Val

Ala Thr Thr Val Pro Ala Pro Thr Thr Pro Arg Thr Pro Thr Pro 155 160 165

Asp Leu Pro Ser Ser Ser Asn Ser Ser Val Leu Pro Thr Pro Pro

180 170 175 Ala Thr Glu Ala Pro Ser Ser Pro Pro Pro Glu Tyr Val Cys Asn 185 Cys Ser Val Val Gly Ser Leu Asn Val Asn Arg Cys Asn Gln Thr 200 Thr Gly Gln Cys Glu Cys Arg Pro Gly Tyr Gln Gly Leu His Cys Glu Thr Cys Lys Glu Gly Phe Tyr Leu Asn Tyr Thr Ser Gly Leu 235 Cys Gln Pro Cys Asp Cys Ser Pro His Gly Ala Leu Ser Ile Pro 255 Cys Asn Arg <210> 154 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 154 aactgctctg tggttggaag cctg 24 <210> 155 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 155 caqtcacatg gctgacagac ccac 24 <210> 156 <211> 38 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-38 <223> Synthetic construct. <400> 156

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- <210> 158 <211> 163 <212> PRT <213> Homo sapiens
- <400> 158 Met Gly Gly Leu Leu Ala Ala Phe Leu Ala Leu Val Ser Val Pro Arg Ala Gln Ala Val Trp Leu Gly Arg Leu Asp Pro Glu Gln Leu Leu Gly Pro Trp Tyr Val Leu Ala Val Ala Ser Arg Glu Lys Gly Phe Ala Met Glu Lys Asp Met Lys Asn Val Val Gly Val Val Val Thr Leu Thr Pro Glu Asn Asn Leu Arg Thr Leu Ser Ser Gln

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Arg Asn Ser Gly Trp Val Phe Glu Asn Pro Ser Ile Gly Val Leu 105

Glu Leu Trp Val Leu Ala Thr Asn Phe Arg Asp Tyr Ala Ile Ile 120

Phe Thr Gln Leu Glu Phe Gly Asp Glu Pro Phe Asn Thr Val Glu 135

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<210> 159

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<212> DNA

<213> Homo sapiens

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<211> 463

<212> PRT

<213> Homo sapiens

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Val Gln Glu Gly Leu Cys Val His Val Pro Cys Ser Phe Ser Tyr 35 40 45

Pro Ser His Gly Trp Ile Tyr Pro Gly Pro Val Val His Gly Tyr
50 55 60

Trp Phe Arg Glu Gly Ala Asn Thr Asp Gln Asp Ala Pro Val Ala
65 70 75

Thr Asn Asn Pro Ala Arg Ala Val Trp Glu Glu Thr Arg Asp Arg 80 85 90

Phe His Leu Leu Gly Asp Pro His Thr Lys Asn Cys Thr Leu Ser 95 100 105

Ile Arg Asp Ala Arg Arg Ser Asp Ala Gly Arg Tyr Phe Phe Arg

				110					115					120
Met	Glu	Lys	Gly	Ser 125	Ile	Lys	Trp	Asn	Tyr 130	Lys	His	His	Arg	Leu 135
Ser	Val	Asn	Val	Thr 140	Ala	Leu	Thr	His	Arg 145	Pro	Asn	Ile	Leu	Ile 150
Pro	Gly	Thr	Leu	Glu 155	Ser	Gly	Cys	Pro	Gln 160	Asn	Leu	Thr	Cys	Ser 165
Val	Pro	Trp	Ala	Cys 170	Glu	Gln	Gly	Thr	Pro 175	Pro	Met	Ile	Ser	Trp 180
Ile	Gly	Thr	Ser	Val 185	Ser	Pro	Leu	Asp	Pro 190	Ser	Thr	Thr	Arg	Ser 195
Ser	Val	Leu	Thr	Leu 200	Ile	Pro	Gln	Pro	Gln 205	Asp	His	Gly	Thr	Ser 210
Leu	Thr	Cys	Gln	Val 215	Thr	Phe	Pro	Gly	Ala 220	Ser	Val	Thr	Thr	Asn 225
Lys	Thr	Val	His	Leu 230	Asn	Val	Ser	Tyr	Pro 235	Pro	Gln	Asn	Leu	Thr 240
Met	Thr	Val	Phe	Gln 245	Gly	Asp	Gly	Thr	Val 250	Ser	Thr	Val	Leu	Gly 255
Asn	Gly	Ser	Ser	Leu 260	Ser	Leu	Pro	Glu	Gly 265	Gln	Ser	Leu	Arg	Leu 270
Val	Cys	Ala	Val	Asp 275	Ala	Val	Asp	Ser	Asn 280	Pro	Pro	Ala	Arg	Leu 285
Ser	Leu	Ser	Trp	Arg 290	Gly	Leu	Thr	Leu	Cys 295	Pro	Ser	Gln	Pro	Ser 300
Asn	Pro	Gly	Val	Leu 305	Glu	Leu	Pro	Trp	Val 310	His	Leu	Arg	Asp	Ala 315
Ala	Glu	Phe	Thr	Cys 320	Arg	Ala	Gln	Asn	Pro 325	Leu	Gly	Ser	Gln	Gln 330
Val	Tyr	Leu	Asn	Val 335	Ser	Leu	Gln	Ser	Lys 340	Ala	Thr	Ser	Gly	Val 345
Thr	Gln	Gly	Val	Val 350	Gly	Gly	Ala	Gly	Ala 355	Thr	Ala	Leu	Val	Phe 360
Leu	Ser	Phe	Cys	Val 365	Ile	Phe	Val	Val	Val 370	Arg	Ser	Cys	Arg	Lys 375
Lys	Ser	Ala	Arg	Pro 380	Ala	Ala	Gly	Val	Gly 385	Asp	Thr	Gly	Ile	Glu 390
Asp	Ala	Asn	Ala	Val 395	Arg	Gly	Ser	Ala	Ser 400	Gln	Gly	Pro	Leu	Thr 405

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Glu Pro Trp Ala Glu Asp Ser Pro Pro Asp Gln Pro Pro Pro Ala 410 415 420
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Ser Ala Arg Ser Ser Val Gly Glu Gly Glu Leu Gln Tyr Ala Ser 425 430 435

Leu Ser Phe Gln Met Val Lys Pro Trp Asp Ser Arg Gly Gln Glu 440 445 450

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<211> 739

<212> DNA

<213> Homo sapiens

<400> 161

<210> 162

<211> 170

<212> PRT

<213> Homo sapiens

<400> 162

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Pro	Arg	Lys	Val	Ser 50	Pro	Val	Lys	Val	Thr 55	Ala	Leu	Gly	Gly	Gly 60
Lys	Leu	Glu	Ala	Thr 65	Phe	Thr	Phe	Met	Arg 70	Glu	Asp	Arg	Cys	Ile 75
Gln	Lys	Lys	Ile	Leu 80	Met	Arg	Lys	Thr	Glu 85	Glu	Pro	Gly	Lys	Tyr 90
Ser	Ala	Tyr	Gly	Gly 95	Arg	Lys	Leu	Met	Tyr 100	Leu	Gln	Glu	Leu	Pro 105
Arg	Arg	Asp	His	Tyr 110	Ile	Phe	Tyr	Cys	Lys 115	Asp	Gln	His	His	Gly 120
Gly	Leu	Leu	His	Met 125	Gly	Lys	Leu	Val	Gly 130	Arg	Asn	Ser	Asp	Thr 135
Asn	Arg	Glu	Ala	Leu 140	Glu	Glu	Phe	Lys	Lys 145	Leu	Val	Gln	Arg	Lys 150
Gly	Leu	Ser	Glu	Glu 155	Asp	Ile	Phe	Thr	Pro 160	Leu	Gln	Thr	Gly	Ser 165
Cys	Val	Pro	Glu	His 170										
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<211> 45
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aggccatgag gattctgcag ttaatcctgc ttgctctggc aacagggctt 150
gtagggggag agaccaggat catcaagggg ttcgagtgca agcctcactc 200
ccagccctgg caggcagccc tgttcgagaa gacgcggcta ctctgtgggg 250
cgacgctcat cgccccaga tggctcctga cagcagccca ctgcctcaag 300
ccccgctaca tagttcacct ggggcagcac aacctccaga aggaggaggg 350
ctgtgagcag acceggacag ccactgagte ettececeae eceggettea 400
acaacageet ecceaacaaa gaceacegea atgacateat getggtgaag 450
atggcatcgc cagtetecat cacetggget gtgcgacccc teaccetete 500
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gcacgtccag cccccagtta cgcctgcctc acaccttgcg atgcgccaac 600
atcaccatca ttgagcacca gaagtgtgag aacgcctacc ccggcaacat 650
cacagacacc atggtgtgt ccagcgtgca ggaagggggc aaggactcct 700
gccagggtga ctccgggggc cctctggtct gtaaccagtc tcttcaaggc 750
attatctcct ggggccagga tccgtgtgcg atcacccgaa agcctggtgt 800
ctacacgaaa gtctgcaaat atgtggactg gatccaggag acgatgaaga 850
acaattagac tggacccacc caccacagcc catcaccctc catttccact 900
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<sup>&</sup>lt;211> 250

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

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<223> Synthetic construct.

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Leu Cys Gly Ala Thr Leu Ile Ala Pro Arg Trp Leu Leu Thr Ala
Ala His Cys Leu Lys Pro Arg Tyr Ile Val His Leu Gly Gln His
Asn Leu Gln Lys Glu Glu Gly Cys Glu Gln Thr Arg Thr Ala Thr
Glu Ser Phe Pro His Pro Gly Phe Asn Asn Ser Leu Pro Asn Lys
Asp His Arg Asn Asp Ile Met Leu Val Lys Met Ala Ser Pro Val
                110
Ser Ile Thr Trp Ala Val Arg Pro Leu Thr Leu Ser Ser Arg Cys
                                     130
                125
Val Thr Ala Gly Thr Ser Cys Leu Ile Ser Gly Trp Gly Ser Thr
                                                         150
                140
Ser Ser Pro Gln Leu Arg Leu Pro His Thr Leu Arg Cys Ala Asn
Ile Thr Ile Ile Glu His Gln Lys Cys Glu Asn Ala Tyr Pro Gly
Asn Ile Thr Asp Thr Met Val Cys Ala Ser Val Gln Glu Gly Gly
Lys Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Asn
Gln Ser Leu Gln Gly Ile Ile Ser Trp Gly Gln Asp Pro Cys Ala
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<213> Artificial
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<211> 24
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<211> 50
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<222> 1-50
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<211> 43
<212> DNA
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<220>
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<222> 1-43
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<210> 179
<211> 907
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<213> Homo sapiens
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 gattcattgt tttcttttat ctgtggggcc tttttactgc tcagagacaa 100
 aagaaagagg agagcaccga agaagtgaaa atagaagttt tgcatcgtcc 150
 agaaaactgc tctaagacaa gcaagaaggg agacctacta aatgcccatt 200
 atgacggcta cctggctaaa gacggctcga aattctactg cagccggaca 250
 caaaatgaag gccaccccaa atggtttgtt cttggtgttg ggcaagtcat 300
 aaaaggccta gacattgcta tgacagatat gtgccctgga gaaaagcgaa 350
 aagtagttat acccccttca tttgcatacg gaaaggaagg ctatgcagaa 400
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<210> 180

<211> 222

<212> PRT

<213> Homo sapiens

<400> 180

Met Pro Lys Thr Met His Phe Leu Phe Arg Phe Ile Val Phe Phe 1 5 10 15

Tyr Leu Trp Gly Leu Phe Thr Ala Gln Arg Gln Lys Lys Glu Glu 20 25 30

Ser Thr Glu Glu Val Lys Ile Glu Val Leu His Arg Pro Glu Asn 35 40 45

Cys Ser Lys Thr Ser Lys Lys Gly Asp Leu Leu Asn Ala His Tyr 50 55 60

Asp Gly Tyr Leu Ala Lys Asp Gly Ser Lys Phe Tyr Cys Ser Arg
65 70 75

Thr Gln Asn Glu Gly His Pro Lys Trp Phe Val Leu Gly Val Gly 80 85 90

Gln Val Ile Lys Gly Leu Asp Ile Ala Met Thr Asp Met Cys Pro 95 100 105

Gly Glu Lys Arg Lys Val Val Ile Pro Pro Ser Phe Ala Tyr Gly 110 115 120

Lys Glu Gly Tyr Ala Glu Gly Lys Ile Pro Pro Asp Ala Thr Leu 125 130 135

Ile Phe Glu Ile Glu Leu Tyr Ala Val Thr Lys Gly Pro Arg Ser 140 145 150

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Ile Glu Thr Phe Lys Gln Ile Asp Met Asp Asn Asp Arg Gln Leu
                 155
Ser Lys Ala Glu Ile Asn Leu Tyr Leu Gln Arg Glu Phe Glu Lys
                                     175
                 170
Asp Glu Lys Pro Arg Asp Lys Ser Tyr Gln Asp Ala Val Leu Glu
                                     190
Asp Ile Phe Lys Lys Asn Asp His Asp Gly Asp Gly Phe Ile Ser
                                     205
Pro Lys Glu Tyr Asn Val Tyr Gln His Asp Glu Leu
                 215
<210> 181
<211> 22
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-22
<223> Synthetic construct.
<400> 181
gtgttctgct ggagccgatg cc 22
<210> 182
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 182
 gacatggaca atgacagg 18
<210> 183
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 183
 cctttcagga tgtaggag 18
<210> 184
<211> 18
<212> DNA
<213> Artificial
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<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 184
gatgtctgcc accccaag 18
<210> 185
<211> 27
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-27
<223> Synthetic construct.
<400> 185
gcatcctgat atgacttgtc acgtggc 27
<210> 186
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 186
tacaagaggg aagaggagtt gcac 24
<210> 187
<211> 52
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-52
<223> Synthetic construct.
<400> 187
 gcccattatg acggctacct ggctaaagac ggctcgaaat tctactgcag 50
 cc 52
<210> 188
<211> 573
<212> DNA
<213> Homo sapiens
<400> 188
 cagaaatgca gggaccattg cttcttccag gcctctgctt tctgctgagc 50
 ctctttggag ctgtgactca gaaaaccaaa acttcctgtg ctaagtgccc 100
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atacttctgg atctgggcag aaactattca cattcccett ggagacatgt 200
aacgccaggc atggtggctc gcgcctgtaa tcccagttct ttgggaagcc 250
aaggcaggtg gatcacctga ggtcaggagt ttgagaccag cctggccaac 300
atagtgaaac cccgtgtcta ctaaaaatac aaaaatcagc cgggcgtggt 350
ggtgcatgcc tgcaatccca gttactcggg aggctgaggc aggagaatcg 400
cttgaactca ggaggcagaa gttgcagtga acccagatcc tgccattgca 450
ctccagcatg gatgacagag caagactccg tctcaaaaag aaaagatagt 500
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ccaaataaag tacttatatt ctc 573

<210> 189

<211> 74

<212> PRT

<213> Homo sapiens

<400> 189

Met Gln Gly Pro Leu Leu Leu Pro Gly Leu Cys Phe Leu Leu Ser 1 5 10 15

Leu Phe Gly Ala Val Thr Gln Lys Thr Lys Thr Ser Cys Ala Lys 20 25 30

Cys Pro Pro Asn Ala Ser Cys Val Asn Asn Thr His Cys Thr Cys 35 40 45

Asn His Gly Tyr Thr Ser Gly Ser Gly Gln Lys Leu Phe Thr Phe 50 55 60

Pro Leu Glu Thr Cys Asn Ala Arg His Gly Gly Ser Arg Leu 65 70

<210> 190

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 190

agggaccatt gcttcttcca ggcc 24

<210> 191

<211> 24

<212> DNA

<213> Artificial

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<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 191
 cgttacatgt ctccaagggg aatg 24
<210> 192
<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 192
 cctgtgctaa gtgcccccca aatgcttcct gtgtcaataa cactcactgc 50
<210> 193
<211> 1091
<212> DNA
<213> Homo sapiens
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 ggtggggggc acagggaaag ggtgacctct gagattcccc ttttccccca 100
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 gttcttgggc tcagccaggc agccacaccg aagattttca atggcactga 200
 gtgtgggcgt aactcacagc cgtggcaggt ggggctgttt gagggcacca 250
 gcctgcgctg cgggggtgtc cttattgacc acaggtgggt cctcacagcg 300
 gctcactgca gcggcagcag gtactgggtg cgcctggggg aacacagcct 350
 cagccagete gaetggaeeg ageagateeg geacagegge ttetetgtga 400
 cccatcccgg ctacctggga gcctcgacga gccacgagca cgacctccgg 450
 ctgctgcggc tgcgcctgcc cgtccgcgta accagcagcg ttcaacccct 500
 geoectgeee aatgaetgtg caacegetgg caeegagtge caegteteag 550
 gctggggcat caccaaccac ccacggaacc cattcccgga tctgctccag 600
 tgcctcaacc tctccatcgt ctcccatgcc acctgccatg gtgtgtatcc 650
 cgggagaatc acgagcaaca tggtgtgtgc aggcggcgtc ccggggcagg 700
 atgcctgcca gggtgattct gggggccccc tggtgtgtgg gggagtcctt 750
  caaggtctgg tgtcctgggg gtctgtgggg ccctgtggac aagatggcat 800
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<210> 194

<211> 248

<212> PRT

<213> Homo sapiens

<400> 194

Met Gly Leu Ser Ile Phe Leu Leu Cys Val Leu Gly Leu Ser 1 5 10 15

Gln Ala Ala Thr Pro Lys Ile Phe Asn Gly Thr Glu Cys Gly Arg 20 25 30

Asn Ser Gln Pro Trp Gln Val Gly Leu Phe Glu Gly Thr Ser Leu
35 40 45

Arg Cys Gly Gly Val Leu Ile Asp His Arg Trp Val Leu Thr Ala
50 55 60

Ala His Cys Ser Gly Ser Arg Tyr Trp Val Arg Leu Gly Glu His 65 70 75

Ser Leu Ser Gln Leu Asp Trp Thr Glu Gln Ile Arg His Ser Gly 80 85 90

Phe Ser Val Thr His Pro Gly Tyr Leu Gly Ala Ser Thr Ser His 95 100 105

Glu His Asp Leu Arg Leu Leu Arg Leu Arg Leu Pro Val Arg Val 110 115 120

Thr Ser Ser Val Gln Pro Leu Pro Leu Pro Asn Asp Cys Ala Thr 125 130 135

Ala Gly Thr Glu Cys His Val Ser Gly Trp Gly Ile Thr Asn His 140 145 150

Pro Arg Asn Pro Phe Pro Asp Leu Leu Gln Cys Leu Asn Leu Ser 155 160 165

Ile Val Ser His Ala Thr Cys His Gly Val Tyr Pro Gly Arg Ile 170 175 180

Thr Ser Asn Met Val Cys Ala Gly Gly Val Pro Gly Gln Asp Ala 185 190 195

Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Gly Gly Val Leu

Gln Gly Leu Val Ser Trp Gly Ser Val Gly Pro Cys Gly Gln Asp 225

Gly Ile Pro Gly Val Tyr Thr Tyr Ile Cys Lys Tyr Val Asp Trp

240

Ile Arg Met Ile Met Arg Asn Asn 245

230

<210> 195

<211> 1485

<212> DNA

<213> Homo sapiens

<400> 195

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<210> 196 <211> 150 <212> PRT

<213> Homo sapiens

<400> 196

Met Ser Gly Glu Leu Ser Asn Arg Phe Gln Gly Gly Lys Ala Phe 1 5 10 15

Gly Leu Leu Lys Ala Arg Gln Glu Arg Arg Leu Ala Glu Ile Asn 20 25 30

Arg Glu Phe Leu Cys Asp Gln Lys Tyr Ser Asp Glu Glu Asn Leu 35 40 45

Pro Glu Lys Leu Thr Ala Phe Lys Glu Lys Tyr Met Glu Phe Asp 50 55 60

Leu Asn Asn Glu Gly Glu Ile Asp Leu Met Ser Leu Lys Arg Met 65 70 75

Met Glu Lys Leu Gly Val Pro Lys Thr His Leu Glu Met Lys Lys 80 85 90

Met Ile Ser Glu Val Thr Gly Gly Val Ser Asp Thr Ile Ser Tyr 95 100 105

Arg Asp Phe Val Asn Met Met Leu Gly Lys Arg Ser Ala Val Leu 110 115 120

Lys Leu Val Met Met Phe Glu Gly Lys Ala Asn Glu Ser Ser Pro 125 130 135

Lys Pro Val Gly Pro Pro Pro Glu Arg Asp Ile Ala Ser Leu Pro 140  $\,$  145  $\,$  150

<210> 197

<211> 4842

<212> DNA

<213> Homo sapiens

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gctgtgcctg cccctacagc tacaagggca aggactgcac tgtgcccatc 2950 aacacctgca tccagaaccc ctgtcagcat ggaggcacct gccacctgag 3000 tgacagccac aaggatgggt tcagctgctc ctgccctctg ggctttgagg 3050 ggcagcggtg tgagatcaac ccagatgact gtgaggacaa cgactgcgaa 3100 aacaatgcca cctgcgtgga cgggatcaac aactacgtgt gtatctgtcc 3150 gcctaactac acaggtgagc tatgcgacga ggtgattgac cactgtgtgc 3200 ctgagctgaa cctctgtcag catgaggcca agtgcatccc cctggacaaa 3250 ggattcagct gcgagtgtgt ccctggctac agcgggaagc tctgtgagac 3300 agacaatgat gactgtgtgg cccacaagtg ccgccacggg gcccagtgcg 3350 tggacacaat caatggctac acatgcacct gcccccaggg cttcagtgga 3400 cccttctgtg aacacccccc acccatggtc ctactgcaga ccagcccatg 3450 cgaccagtac gagtgccaga acggggccca gtgcatcgtg gtgcagcagg 3500 ageceacetg cegetgeeca ecaggetteg ceggeeceag atgegagaag 3550 ctcatcactg tcaacttcgt gggcaaagac tcctacgtgg aactggcctc 3600 cgccaaggtc cgacccagg ccaacatctc cctgcaggtg gccactgaca 3650 aggacaacgg catcettete tacaaaggag acaatgacee cetggcactg 3700 gagctgtacc agggccacgt gcggctggtc tatgacagcc tgagttcccc 3750 tccaaccaca gtgtacagtg tggagacagt gaatgatggg cagtttcaca 3800 gtgtggagct ggtgacgcta aaccagaccc tgaacctagt agtggacaaa 3850 ggaactccaa agagcctggg gaagctccag aagcagccag cagtgggcat 3900 caacageece etetacettg gaggeateec caeeteeace ggeeteteeg 3950 cettgegeca gggeacggae eggeetetag geggetteca eggatgeate 4000 catgaggtgc gcatcaacaa cgagctgcag gacttcaagg ccctcccacc 4050 acagtecetg ggggtgteac caggetgeaa gteetgeace gtgtgeaage 4100 acggcctgtg ccgctccgtg gagaaggaca gcgtggtgtg cgagtgccgc 4150 ccaggctgga ccggcccact ctgcgaccag gaggcccggg acccctgcct 4200 cggccacaga tgccaccatg gaaaatgtgt ggcaactggg acctcataca 4250 tgtgcaagtg tgccgagggc tatggagggg acttgtgtga caacaagaat 4300 gactotgoca atgootgoto agoottoaag tgtoaccatg ggcagtgoca 4350 cateteagae caagggage cetaetgeet gtgecageee ggetttageg 4400 gegageactg ceaacaagag aateeggee tgggacaagt agteegagag 4450 gtgateegee gecagaaagg ttatgeatea tgtgecacag cetecaaggt 4500 geecateatg gaatgtegtg ggggetgtgg geeceagtge tgccageeca 4550 eeegeageaa geggeggaaa taegtettee agtgeaegga eggeteeteg 4600 tttgtagaag aggtggagag acaettagag tgeggetgee tegeegtgte 4650 etaageecet geecgeetge etgeeaeete teggaeteea gettgatgga 4700 gttgggacag ecatgtgga eceeetggtg atteageatg aaggaaatga 4750 agetggagag gaaggtaaag aagaagagaa tattaagtat attgtaaaat 4800 aaacaaaaaa tagaaettaa aaaaaaaaa aaaaaaaaa aa 4842

<210> 198

<211> 1523

<212> PRT

<213> Homo sapiens

<400> 198

Met Ala Pro Gly Trp Ala Gly Val Gly Ala Ala Val Arg Ala Arg
1 5 10 15

Leu Ala Leu Ala Leu Ala Ser Val Leu Ser Gly Pro Pro 20 25 30

Ala Val Ala Cys Pro Thr Lys Cys Thr Cys Ser Ala Ala Ser Val 35 40 45

Asp Cys His Gly Leu Gly Leu Arg Ala Val Pro Arg Gly Ile Pro
50 55 60

Arg Asn Ala Glu Arg Leu Asp Leu Asp Arg Asn Asn Ile Thr Arg
65 70 75

Ile Thr Lys Met Asp Phe Ala Gly Leu Lys Asn Leu Arg Val Leu 80 85 90

His Leu Glu Asp Asn Gln Val Ser Val Ile Glu Arg Gly Ala Phe 95 100 105

Gln Asp Leu Lys Gln Leu Glu Arg Leu Arg Leu Asn Lys Asn Lys 110 115 120

Leu Gln Val Leu Pro Glu Leu Leu Phe Gln Ser Thr Pro Lys Leu 125 130 135

Thr Arg Leu Asp Leu Ser Glu Asn Gln Ile Gln Gly Ile Pro Arg 140 145 150

Lys Ala Phe Arg Gly Ile Thr Asp Val Lys Asn Leu Gln Leu Asp 155 160 165

Asn	Asn	His	Ile	Ser 170	Cys	Ile	Glu	Asp	Gly 175	Ala	Phe	Arg	Ala	Leu 180
Arg	Asp	Leu	Glu	Ile 185	Leu	Thr	Leu	Asn	Asn 190	Asn	Asn	Ile	Ser	Arg 195
Ile	Leu	Val	Thr	Ser 200	Phe	Asn	His	Met	Pro 205	Lys	Ile	Arg	Thr	Leu 210
Arg	Leu	His	Ser	Asn 215	His	Leu	Tyr	Cys	Asp 220	Cys	His	Leu	Ala	Trp 225
Leu	Ser	Asp	Trp	Leu 230	Arg	Gln	Arg	Arg	Thr 235	Val	Gly	Gln	Phe	Thr 240
Leu	Cys	Met	Ala	Pro 245	Val	His	Leu	Arg	Gly 250	Phe	Asn	Val	Ala	Asp 255
Val	Gln	Lys	Lys	Glu 260	Tyr	Val	Суѕ	Pro	Ala 265	Pro	His	Ser	Glu	Pro 270
Pro	Ser	Cys	Asn	Ala 275	Asn	Ser	Ile	Ser	Cys 280	Pro	Ser	Pro	Суз	Thr 285
Cys	Ser	Asn	Asn	Ile 290	Val	Asp	Cys	Arg	Gly 295	Lys	Gly	Leu	Met	Glu 300
Ile	Pro	Ala	Asn	Leu 305	Pro	Glu	Gly	Ile	Val 310	Glu	Ile	Arg	Leu	Glu 315
Gln	Asn	Ser	Ile	Lys 320	Ala	Ile	Pro	Ala	Gly 325	Ala	Phe	Thr	Gln	Tyr 330
Lys	Lys	Leu	Lys	Arg 335	Ile	Asp	Ile	Ser	Lys 340	Asn	Gln	Ile	Ser	Asp 345
Ile	Ala	Pro	Asp	Ala 350	Phe	Gln	Gly	Leu	Lys 355	Ser	Leu	Thr	Ser	Leu 360
Val	Leu	Tyr	Gly	Asn 365	Lys	Ile	Thr	Glu	Ile 370	Ala	Lys	Gly	Leu	Phe 375
Asp	Gly	Leu	Val	Ser 380	Leu	Gln	Leu	Leu	Leu 385	Leu	Asn	Ala	Asn	Lys 390
Ile	Asn	Суз	Leu	Arg 395	Val	Asn	Thr	Phe	Gln 400	Asp	Leu	Gln	Asn	Leu 405
Asn	Leu	Leu	Ser	Leu 410	Tyr	Asp	Asn	Lys	Leu 415	Gln	Thr	Ile	Ser	Lys 420
Gly	Leu	Phe	Ala	Pro 425	Leu	Gln	Ser	Ile	Gln 430	Thr	Leu	His	Leu	Ala 435
Gln	Asn	Pro	Phe	Val 440		Asp	Cys	His	Leu 445	Lys	Trp	Leu	Ala	Asp 450
Tyr	Leu	Gln	Asp	Asn	Pro	Ile	Glu	Thr	Ser	Gly	Ala	Arg	Cys	Ser

				455					460					465
Ser	Pro	Arg	Arg	Leu 470	Ala	Asn	Lys	Arg	Ile 475	Ser	Gln	Ile	Lys	Ser 480
Lys	Lys	Phe	Arg	Cys 485	Ser	Gly	Ser	Glu	Asp 490	Tyr	Arg	Ser	Arg	Phe 495
Ser	Ser	Glu	Cys	Phe 500	Met	Asp	Leu	Val	Cys 505	Pro	Glu	Lys	Cys	Arg 510
Cys	Glu	Gly	Thr	Ile 515	Val	Asp	Cys	Ser	Asn 520	Gln	Lys	Leu	Val	Arg 525
Ile	Pro	Ser	His	Leu 530	Pro	Glu	Tyr	Val	Thr 535	Asp	Leu	Arg	Leu	Asn 540
Asp	Asn	Glu	Val	Ser 545	Val	Leu	Glu	Ala	Thr 550	Gly	Ile	Phe	Lys	Lys 555
Leu	Pro	Asn	Leu	Arg 560	Lys	Ile	Asn	Leu	Ser 565	Asn	Asn	Lys	Ile	Lys 570
Glu	Val	Arg	Glu	Gly 575	Ala	Phe	Asp	Gly	Ala 580	Ala	Ser	Val	Gln	Glu 585
Leu	Met	Leu	Thr	Gly 590	Asn	Gln	Leu	Glu	Thr 595	Val	His	Gly	Arg	Val 600
Phe	Arg	Gly	Leu	Ser 605	Gly	Leu	Lys	Thr	Leu 610	Met	Leu	Arg	Ser	Asn 615
Leu	Ile	Ser	Cys	Val 620	Ser	Asn	Asp	Thr	Phe 625	Ala	Gly	Leu	Ser	Ser 630
Val	Arg	Leu	Leu	Ser 635		Tyr	Asp	Asn	Arg 640	Ile	Thr	Thr	Ile	Thr 645
Pro	Gly	Ala	Phe	Thr 650		Leu	Val	Ser	Leu 655		Thr	Ile	Asn	Leu 660
Leu	Ser	Asn	Pro	Phe 665		Cys	Asn	Cys	His 670		Ala	Trp	Leu	Gly 675
Lys	Trp	Leu	Arg	Lys 680		Arg	Ile	Val	Ser 685	Gly	Asn	Pro	Arg	Cys 690
Gln	Lys	Pro	Phe	Phe 695		Lys	Glu	Ile	700	Ile	Gln	Asp	Val	Ala 705
Ile	Gln	Asp	Phe	Thr 710		Asp	Gly	Asn	Glu 715		Ser	Ser	Cys	Gln 720
Leu	Ser	Pro	Arç	725		Glu	Gln	Cys	730	Суз	Met	Glu	Thr	Val 735
Val	Arg	г Суз	s Ser	740		Gly	Leu	Arg	745		Pro	Arg	Gly	Met 750

Pro Lys Asp Val Thr Glu Leu Tyr Leu Glu Gly Asn His Leu Thr 755 Ala Val Pro Arg Glu Leu Ser Ala Leu Arg His Leu Thr Leu Ile Asp Leu Ser Asn Asn Ser Ile Ser Met Leu Thr Asn Tyr Thr Phe Ser Asn Met Ser His Leu Ser Thr Leu Ile Leu Ser Tyr Asn Arg Leu Arg Cys Ile Pro Val His Ala Phe Asn Gly Leu Arg Ser Leu 815 Arg Val Leu Thr Leu His Gly Asn Asp Ile Ser Ser Val Pro Glu Gly Ser Phe Asn Asp Leu Thr Ser Leu Ser His Leu Ala Leu Gly Thr Asn Pro Leu His Cys Asp Cys Ser Leu Arg Trp Leu Ser Glu Trp Val Lys Ala Gly Tyr Lys Glu Pro Gly Ile Ala Arg Cys Ser Ser Pro Glu Pro Met Ala Asp Arg Leu Leu Leu Thr Thr Pro Thr His Arg Phe Gln Cys Lys Gly Pro Val Asp Ile Asn Ile Val Ala Lys Cys Asn Ala Cys Leu Ser Ser Pro Cys Lys Asn Asn Gly Thr Cys Thr Gln Asp Pro Val Glu Leu Tyr Arg Cys Ala Cys Pro Tyr Ser Tyr Lys Gly Lys Asp Cys Thr Val Pro Ile Asn Thr Cys Ile Gln Asn Pro Cys Gln His Gly Gly Thr Cys His Leu Ser Asp Ser His Lys Asp Gly Phe Ser Cys Ser Cys Pro Leu Gly Phe Glu Gly Gln Arg Cys Glu Ile Asn Pro Asp Asp Cys Glu Asp Asn Asp Cys Glu Asn Asn Ala Thr Cys Val Asp Gly Ile Asn Asn Tyr Val Cys Ile Cys Pro Pro Asn Tyr Thr Gly Glu Leu Cys Asp Glu Val Ile 1035 1025 Asp His Cys Val Pro Glu Leu Asn Leu Cys Gln His Glu Ala Lys

			1	.040				1	.045				1	050
Cys	Ile	Pro	Leu 1	Asp .055	Lys	Gly	Phe	Ser 1	Cys .060	Glu	Cys	Val	Pro 1	Gly 065
Tyr	Ser	Gly	Lys 1	Leu .070	Cys	Glu	Thr	Asp 1	Asn .075	Asp	Asp	Суз	Val 1	Ala .080
His	Lys	Cys	Arg 1	His 1085	Gly	Ala	Gln	Cys 1	Val 1090	Asp	Thr	Ile	Asn 1	Gly .095
Tyr	Thr	Cys	Thr	Cys L100	Pro	Gln	Gly	Phe 1	Ser L105	Gly	Pro	Phe	Cys 1	Glu 110
His	Pro	Pro	Pro	Met 1115	Val	Leu	Leu	Gln	Thr 1120	Ser	Pro	Cys	Asp 1	Gln 125
Tyr	Glu	Cys	Gln	Asn 1130	Gly	Ala	Gln	Cys	Ile L135	Val	Val	Gln	Gln 1	Glu .140
Pro	Thr	Cys	Arg	Cys 1145	Pro	Pro	Gly	Phe	Ala 1150	Gly	Pro	Arg	Cys 1	Glu .155
Lys	Leu	Ile	Thr	Val 1160	Asn	Phe	Val	Gly	Lys 1165	Asp	Ser	Tyr	Val 1	Glu L170
Leu	Ala	Ser	Ala	Lys 1175	Val	Arg	Pro	Gln	Ala 1180	Asn	Ile	Ser	Leu 1	Gln L185
Val	Ala	Thr	Asp	Lys 1190	Asp	Asn	Gly	Ile	Leu 1195	Leu	Tyr	Lys	Gly 1	Asp L200
Asn	Asp	Pro	Leu	Ala 1205	Leu	Glu	Leu	Tyr	Gln 1210	Gly	His	Val	Arg	Leu 1215
Val	Tyr	Asp	Ser	Leu 1220		Ser	Pro	Pro	Thr 1225	Thr	Val	Tyr	Ser	Val 1230
Glu	Thr	Val	Asn	Asp 1235		Gln	Phe	His	Ser 1240	Val	Glu	Leu	Val	Thr 1245
Leu	Asn	Gln	Thr	Leu 1250		Leu	Val	Val	Asp 1255	Lys	Gly	Thr	Pro	Lys 1260
Ser	Leu	Gly	Lys	Leu 1265		Lys	Gln	Pro	Ala 1270	Val	Gly	Ile	Asn	Ser 1275

Leu Arg Gln Gly Thr Asp Arg Pro Leu Gly Gly Phe His Gly Cys
1295 1300 1305

Pro Leu Tyr Leu Gly Gly Ile Pro Thr Ser Thr Gly Leu Ser Ala

Ile His Glu Val Arg Ile Asn Asn Glu Leu Gln Asp Phe Lys Ala 1310  $\phantom{000}$  1315  $\phantom{000}$  1320

Leu Pro Pro Gln Ser Leu Gly Val Ser Pro Gly Cys Lys Ser Cys 1325 1330 1335

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Thr Val Cys Lys His Gly Leu Cys Arg Ser Val Glu Lys Asp Ser 1340 1345 1350
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Val Val Cys Glu Cys Arg Pro Gly Trp Thr Gly Pro Leu Cys Asp 1355 1360 1365

Gln Glu Ala Arg Asp Pro Cys Leu Gly His Arg Cys His His Gly
1370 1375 1380

Lys Cys Val Ala Thr Gly Thr Ser Tyr Met Cys Lys Cys Ala Glu 1385 1390 1395

Gly Tyr Gly Gly Asp Leu Cys Asp Asn Lys Asn Asp Ser Ala Asn 1400 1405 1410

Ala Cys Ser Ala Phe Lys Cys His His Gly Gln Cys His Ile Ser 1415 1420 1425

Asp Gln Gly Glu Pro Tyr Cys Leu Cys Gln Pro Gly Phe Ser Gly
1430 1435 1440

Glu His Cys Gln Gln Glu Asn Pro Cys Leu Gly Gln Val Val Arg 1445 1450 1455

Glu Val Ile Arg Arg Gln Lys Gly Tyr Ala Ser Cys Ala Thr Ala 1460 1465 1470

Ser Lys Val Pro Ile Met Glu Cys Arg Gly Gly Cys Gly Pro Gln 1475 1480 1485

Cys Cys Gln Pro Thr Arg Ser Lys Arg Arg Lys Tyr Val Phe Gln \$1490\$ \$1495\$ \$1500

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Glu Cys Gly Cys Leu Ala Cys Ser

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<220>

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<222> 1-24

<223> Synthetic construct.

<400> 199

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<210> 200

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<220>

qtc 753

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<210> 202
<211> 753
<212> DNA
<213> Homo sapiens
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 gtttcttccg cagactcaac tgagaagtca gcctctgggg caggcaccag 100
 gaatctgcct tttcagttct gtctccggca ggctttgagg atgaaggctg 150
 cgggcattct gaccctcatt ggctgcctgg tcacaggcgc cgagtccaaa 200
 atctacactc gttgcaaact ggcaaaaata ttctcgaggg ctggcctgga 250
 caattactgg ggcttcagcc ttggaaactg gatctgcatg gcatattatg 300
 agageggeta caacaccaca geeeegaegg teetggatga eggeageate 350
 gactatggca tcttccagat caacagcttc gcgtggtgca gacgcggaaa 400
 gctgaaggag aacaaccact gccatgtcgc ctgctcagcc ttgatcactg 450
 atgacctcac agatgcaatt atctgtgcca ggaaaattgt taaagagaca 500
 caaggaatga actattggca aggctggaag aaacattgtg agggcagaga 550
 cctgtccgag tggaaaaaag gctgtgaggt ttcctaaact ggaactggac 600
  ccaggatgct ttgcagcaac gccctaggat ttgcagtgaa tgtccaaatg 650
  cctgtgtcat cttgtcccgt ttcctcccaa tattccttct caaacttgga 700
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<211> 148
<212> PRT
<213> Homo sapiens
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 Gly Ala Glu Ser Lys Ile Tyr Thr Arg Cys Lys Leu Ala Lys Ile
 Phe Ser Arg Ala Gly Leu Asp Asn Tyr Trp Gly Phe Ser Leu Gly
 Asn Trp Ile Cys Met Ala Tyr Tyr Glu Ser Gly Tyr Asn Thr Thr
 Ala Pro Thr Val Leu Asp Asp Gly Ser Ile Asp Tyr Gly Ile Phe
 Gln Ile Asn Ser Phe Ala Trp Cys Arg Arg Gly Lys Leu Lys Glu
 Asn Asn His Cys His Val Ala Cys Ser Ala Leu Ile Thr Asp Asp
                                                          105
 Leu Thr Asp Ala Ile Ile Cys Ala Arg Lys Ile Val Lys Glu Thr
                  110
 Gln Gly Met Asn Tyr Trp Gln Gly Trp Lys Lys His Cys Glu Gly
                                                           135
 Arg Asp Leu Ser Glu Trp Lys Lys Gly Cys Glu Val Ser
<210> 204
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 204
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<210> 205
<211> 24
<212> DNA
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<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
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<400> 205
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<210> 206
<211> 24
<212> DNA
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<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 206
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<210> 207
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 207
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<210> 208
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<21.2> DNA
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<222> 1-47
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<211> 1648
<212> DNA
<213> Homo sapiens
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 cctcagcagt gtcatgtgtt aaaaacgcca agctgaatat atcatgcccc 100
 tattaaaact tgtacatggc tccccattgg tttttggaga aaagttcaag 150
 ctttttacct tggtgtctgc ctgtatccca gtgttcaggc tggctagacg 200
 geggaagaag atectatttt actgteactt eccagatetg etteteacea 250
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<sup>&</sup>lt;210> 210 <211> 323

<212> PRT <213> Homo sapiens

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Pro Asp Pro Val His Phe Ser Glu Ala Ile Glu Lys Phe Ile Arg 275 280 285

Glu Pro Ser Leu Lys Ala Thr Met Gly Leu Ala Gly Arg Ala Arg 290 295 300

Val Lys Glu Lys Phe Ser Pro Glu Ala Phe Thr Glu Gln Leu Tyr 305 310 315

Arg Tyr Val Thr Lys Leu Leu Val 320

<210> 211

<211> 1554

<212> DNA

<213> Homo sapiens

<400> 211

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ttgagcagct cagatattgt cagcatgtgc tttgtgaaac tgttcgaact 1050 gccaaactga ctccagtttc tgcccagctt caagatattg aaggaaaaat 1100 tgaccgattt attattccta gagagaccct cgtcctttat gcccttggtg 1150 tggtacttca ggatcctaat acttggccat ctccacacaa gtttgatcca 1200 gatcggtttg atgatgaatt agtaatgaaa actttttcct cacttggatt 1250 ctcaggcaca caggagtgtc cagagttgag gtttgcatat atggtgacca 1300 cagtacttct tagtgtattg gtgaagagac tgcacctact ttctgtggag 1350 ggacaggtta ttgaaacaaa gtatgaactg gtaacatcat caagggaaga 1400 agcttggatc actgtctcaa agagatatta aaattttata catttaaaat 1450 cattgttaaa ttgattgagg aaaacaacca tttaaaaaaa atctatgttg 1500 aatcctttta taaaccagta tcactttgta atataaacac ctatttgtac 1550 ttaa 1554 <210> 212 <211> 462 <212> PRT

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<400> 212

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Val Gly Ala Val Leu Tyr Leu Tyr Pro Ala Ser Arg Gln Ala Ala

Gly Ile Pro Gly Ile Thr Pro Thr Glu Glu Lys Asp Gly Asn Leu

Pro Asp Ile Val Asn Ser Gly Ser Leu His Glu Phe Leu Val Asn

Leu His Glu Arg Tyr Gly Pro Val Val Ser Phe Trp Phe Gly Arg

Arg Leu Val Val Ser Leu Gly Thr Val Asp Val Leu Lys Gln His

Ile Asn Pro Asn Lys Thr Ser Asp Pro Phe Glu Thr Met Leu Lys 105

Ser Leu Leu Arg Tyr Gln Ser Gly Gly Gly Ser Val Ser Glu Asn

His Met Arg Lys Lys Leu Tyr Glu Asn Gly Val Thr Asp Ser Leu 135 125

Lys Ser Asn Phe Ala Leu Leu Leu Lys Leu Ser Glu Glu Leu Leu

				140					145					150
Asp	Lys	Trp	Leu	Ser 155	Tyr	Pro	Glu	Thr	Gln 160	His	Val	Pro	Leu	Ser 165
Gln	His	Met	Leu	Gly 170	Phe	Ala	Met	Lys	Ser 175	Val	Thr	Gln	Met	Val 180
Met	Gly	Ser	Thr	Phe 185	Glu	Asp	Asp	Gln	Glu 190	Val	Ile	Arg	Phe	Gln 195
Lys	Asn	His	Gly	Thr 200	Val	Trp	Ser	Glu	Ile 205	Gly	Lys	Gly	Phe	Leu 210
Asp	Gly	Ser	Leu	Asp 215	Lys	Asn	Met	Thr	Arg 220	Lys	Lys	Gln	Tyr	Glu 225
Asp	Ala	Leu	Met	Gln 230	Leu	Glu	Ser	Val	Leu 235	Arg	Asn	Ile	Ile	Lys 240
Glu	Arg	Lys	Gly	Arg 245	Asn	Phe	Ser	Gln	His 250	Ile	Phe	Ile	Asp	Ser 255
Leu	Val	Gln	Gly	Asn 260	Leu	Asn	Asp	Gln	Gln 265	Ile	Leu	Glu	Asp	Ser 270
Met	Ile	Phe	Ser	Leu 275	Ala	Ser	Cys	Ile	Ile 280	Thr	Ala	Lys	Leu	Cys 285
Thr	Trp	Ala	Ile	Cys 290	Phe	Leu	Thr	Thr	Ser 295	Glu	Glu	Val	Gln	Lys 300
Lys	Leu	Tyr	Glu	Glu 305	Ile	Asn	Gln	Val	Phe 310	Gly	Asn	Gly	Pro	Val 315
Thr	Pro	Glu	Lys	Ile 320	Glu	Gln	Leu	Arg	Tyr 325	Cys	Gln	His	Val	Leu 330
Cys	Glu	Thr	Val	Arg 335	Thr	Ala	Lys	Leu	Thr 340	Pro	Val	Ser	Ala	Gln 345
Leu	Gln	Asp	Ile	Glu 350	Gly	Lys	Ile	Asp	Arg 355	Phe	Ile	Ile	Pro	Arg 360
Glu	Thr	Leu	Val	Leu 365	Tyr	Ala	Leu	Gly	Val 370		Leu	Gln	Asp	Pro 375
Asn	Thr	Trp	Pro	Ser 380	Pro	His	Lys	Phe	Asp 385		Asp	Arg	Phe	Asp 390
Asp	Glu	Leu	Val	Met 395	Lys	Thr	Phe	Ser	Ser 400		Gly	Phe	Ser	Gly 405
Thr	Gln	Glu	Cys	Pro 410	Glu	Leu	Arg	Phe	Ala 415		Met	Val	Thr	Thr 420
Val	Leu	Leu	Ser	Val 425	Leu	Val	Lys	Arg	Leu 430	His	Leu	Leu	Ser	Val 435

Arg Glu Glu Ala Trp Ile Thr Val Ser Lys Arg Tyr 455 460

<210> 213

<211> 759

<212> DNA

<213> Homo sapiens

<400> 213

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<211> 140

<212> PRT

<213> Homo sapiens

aaaaaaaaa 759

<400> 214

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1 5 10 15

Leu Ala His Leu Val Val Val Ile Thr Leu Phe Trp Ser Arg Asp  $20 \\ 25 \\ 30$ 

Ser Asn Ile Gln Ala Cys Leu Pro Leu Thr Phe Thr Pro Glu Glu 35 40 45

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Tyr Asp Lys Gln Asp Ile Gln Leu Val Ala Ala Leu Ser Val Thr
Leu Gly Leu Phe Ala Val Glu Leu Ala Gly Phe Leu Ser Gly Val
                                      70
Ser Met Phe Asn Ser Thr Gln Ser Leu Ile Ser Ile Gly Ala His
Cys Ser Ala Ser Val Ala Leu Ser Phe Phe Ile Phe Glu Arg Trp
                  95
                                     100
Glu Cys Thr Thr Tyr Trp Tyr Ile Phe Val Phe Cys Ser Ala Leu
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Pro Ala Val Thr Glu Met Ala Leu Phe Val Thr Val Phe Gly Leu
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Lys Lys Pro Phe
                 140
<210> 215
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<211> 697 <212> DNA

<213> Homo sapiens

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<210> 216

<211> 196

<212> PRT

<213> Homo sapiens

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<400> 216
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Leu Arg Leu Gly Ala Ala Gln Glu Thr Glu Asp Pro Ala Cys Cys
Ser Pro Ile Val Pro Arg Asn Glu Trp Lys Ala Leu Ala Ser Glu
                                      40
Cys Ala Gln His Leu Ser Leu Pro Leu Arg Tyr Val Val Ser
His Thr Ala Gly Ser Ser Cys Asn Thr Pro Ala Ser Cys Gln Gln
 Gln Ala Arg Asn Val Gln His Tyr His Met Lys Thr Leu Gly Trp
 Cys Asp Val Gly Tyr Asn Phe Leu Ile Gly Glu Asp Gly Leu Val
 Tyr Glu Gly Arg Gly Trp Asn Phe Thr Gly Ala His Ser Gly His
                                                         120
 Leu Trp Asn Pro Met Ser Ile Gly Ile Ser Phe Met Gly Asn Tyr
                                                         135
                                     130
                 125
 Met Asp Arg Val Pro Thr Pro Gln Ala Ile Arg Ala Ala Gln Gly
                                                         150
 Leu Leu Ala Cys Gly Val Ala Gln Gly Ala Leu Arg Ser Asn Tyr
                                                         165
 Val Leu Lys Gly His Arg Asp Val Gln Arg Thr Leu Ser Pro Gly
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 Asn Gln Leu Tyr His Leu Ile Gln Asn Trp Pro His Tyr Arg Ser
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                                     190
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Pro

<210> 217

<211> 1871

<212> DNA

<213> Homo sapiens

<400> 217

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tctatctggt catctgtggc caggatgatg gtcctcccgg ctcagaggac 150
cctgagcgtg atgaccacga gggccagccc cggccccggg tgcctcggaa 200

geggggeeae ateteaceta agtecegeee catggeeaat tecaetetee 250 tagggctgct ggccccgcct ggggaggctt ggggcattct tgggcagccc 300 cccaaccgcc cgaaccacag cccccaccc tcagccaagg tgaagaaaat 350 ctttggctgg ggcgacttct actccaacat caagacggtg gccctgaacc 400 tgctcgtcac agggaagatt gtggaccatg gcaatgggac cttcagcgtc 450 cacttccaac acaatgccac aggccaggga aacatctcca tcagcctcgt 500 gcccccagt aaagetgtag agttccacca ggaacagcag atcttcatcg 550 aagccaaggc ctccaaaatc ttcaactgcc ggatggagtg ggagaaggta 600 gaacggggcc gccggacctc gctttgcacc cacgacccag ccaagatctg 650 ctcccgagac cacgetcaga getcagecae etggagetge teccagecet 700 tcaaagtcgt ctgtgtctac atcgccttct acagcacgga ctatcggctg 750 gtccagaagg tgtgcccaga ttacaactac catagtgata ccccctacta 800 ggacaggcct gcccatgcag gagaccatct ggacaccggg cagggaaggg 900 gttgggcctc aggcagggag gggggtggag acgaggagat gccaagtggg 950 gccagggcca agtctcaagt ggcagagaaa gggtcccaag tgctggtccc 1000 aacctgaagc tgtggagtga ctagatcaca ggagcactgg aggaggagtg 1050 ggctctctgt gcagcctcac agggctttgc cacggagcca cagagagatg 1100 ctgggtcccc gaggcctgtg ggcaggccga tcagtgtggc cccagatcaa 1150 gtcatgggag gaagctaagc ccttggttct tgccatcctg aggaaagata 1200 gcaacaggga gggggagatt tcatcagtgt ggacagcctg tcaacttagg 1250 gccagaggag ctctccagcc ctgcctagtg ggcgccctga gccccttgtc 1350 gtgtgctgag catggcatga ggctgaagtg gcaaccctgg ggtctttgat 1400 gtottgacag attgaccato tgtotocago caggocacco otttocaaaa 1450 ttccctcttc tgccagtact ccccctgtac cacccattgc tgatggcaca 1500 cccatcctta agctaagaca ggacgattgt ggtcctccca cactaaggcc 1550 acageceate egegtgetgt gtgteeetet teeaceceaa eecetgetgg 1600 ctcctctggg agcatccatg tcccggagag gggtccctca acagtcagcc 1650 tcacctgtca gaccggggtt ctcccggatc tggatggcgc cgccctctca 1700 gcagcgggca cgggtggggc ggggccgggc cgcagagcat gtgctggatc 1750 tgttctgtgt gtctgtctgt gggtggggg aggggaggga agtcttgtga 1800 aaccgctgat tgctgacttt tgtgtgaaga atcgtgttct tggagcagga 1850 aataaagctt gcccggggc a 1871

<210> 218

<211> 252

<212> PRT

<213> Homo sapiens

<400> 218

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Leu Tyr Leu Val Ile Cys Gly Gln Asp Asp Gly Pro Pro Gly Ser  $20 \\ 25 \\ 30$ 

Glu Asp Pro Glu Arg Asp Asp His Glu Gly Gln Pro Arg Pro Arg 35 40 45

Val Pro Arg Lys Arg Gly His Ile Ser Pro Lys Ser Arg Pro Met 50 55 60

Ala Asn Ser Thr Leu Leu Gly Leu Leu Ala Pro Pro Gly Glu Ala 65 70 75

Trp Gly Ile Leu Gly Gln Pro Pro Asn Arg Pro Asn His Ser Pro 80 85 90

Pro Pro Ser Ala Lys Val Lys Lys Ile Phe Gly Trp Gly Asp Phe

Tyr Ser Asn Ile Lys Thr Val Ala Leu Asn Leu Leu Val Thr Gly
110 115 120

Lys Ile Val Asp His Gly Asn Gly Thr Phe Ser Val His Phe Gln 125 130 135

His Asn Ala Thr Gly Gln Gly Asn Ile Ser Ile Ser Leu Val Pro 140 145 150

Pro Ser Lys Ala Val Glu Phe His Gln Glu Gln Gln Ile Phe Ile 155 160 165

Glu Ala Lys Ala Ser Lys Ile Phe Asn Cys Arg Met Glu Trp Glu
170 175 180

Lys Val Glu Arg Gly Arg Arg Thr Ser Leu Cys Thr His Asp Pro 185 190 195

Ala Lys Ile Cys Ser Arg Asp His Ala Gln Ser Ser Ala Thr Trp 200 205 210

Ser Cys Ser Gln Pro Phe Lys Val Val Cys Val Tyr Ile Ala Phe \$215\$ \$220\$ \$225

Tyr Ser Thr Asp Tyr Arg Leu Val Gln Lys Val Cys Pro Asp Tyr 230 235 240

qtqaatqtqa qqqtttqatq actttcaqat qtctaqqaac caqaqtqggt 50

Asn Tyr His Ser Asp Thr Pro Tyr Tyr Pro Ser Gly 245 250

<210> 219

<211> 2065

<212> DNA

<213> Homo sapiens

<400> 219

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<210> 220

<211> 201

<212> PRT

<213> Homo sapiens

<400> 220

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Leu Val Leu Thr Leu Pro Gly Leu Pro Val Trp Ala Gln Asn Asp 20 25 30

Thr Glu Pro Ile Val Leu Glu Gly Lys Cys Leu Val Val Cys Asp 35 40 45

Ser Asn Pro Ala Thr Asp Ser Lys Gly Ser Ser Ser Pro Leu
50 55 60

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Gly Ile Ser Val Arg Ala Ala Asn Ser Lys Val Ala Phe Ser Ala
Val Arg Ser Thr Asn His Glu Pro Ser Glu Met Ser Asn Lys Thr
Arg Ile Ile Tyr Phe Asp Gln Ile Leu Val Asn Val Gly Asn Phe
                                     100
Phe Thr Leu Glu Ser Val Phe Val Ala Pro Arg Lys Gly Ile Tyr
                110
                                     115
Ser Phe Ser Phe His Val Ile Lys Val Tyr Gln Ser Gln Thr Ile
                                     130
                125
Gln Val Asn Leu Met Leu Asn Gly Lys Pro Val Ile Ser Ala Phe
Ala Gly Asp Lys Asp Val Thr Arg Glu Ala Ala Thr Asn Gly Val
                155
Leu Leu Tyr Leu Asp Lys Glu Asp Lys Val Tyr Leu Lys Leu Glu
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Lys Gly Asn Leu Val Gly Gly Trp Gln Tyr Ser Thr Phe Ser Gly
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                 185
Phe Leu Val Phe Pro Leu
                 200
<210> 221
<211> 20
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<222> 1-20
<223> Synthetic construct.
<400> 221
 acggctcacc atgggctccg 20
<210> 222
<211> 24
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<222> 1-24
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<400> 222
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<210> 223
<211> 40
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<212> PRT

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<223> Synthetic construct.
<400> 223
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<210> 224
<211> 902
<212> DNA
<213> Homo sapiens
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 tatcatcttc ctcatcgccg gagctttctt ctggttggtg tctctactga 150
 tttcgtccct tgtttggttc atggcaagag tcattattga caacaaagat 200
 ggaccaacac agaaatatct gctgatcttt ggagcgtttg tctctgtcta 250
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 gtgaaggttt gaagagtata aacccaggtg agacagcacc ctctatgcga 350
 ctgctggcct atgtttctgg cttgggcttt ggaatcatga gtggagtatt 400
 ttcctttgtg aataccctat ctgactcctt ggggccaggc acagtgggca 450
 ttcatggaga ttctcctcaa ttcttccttt attcagcttt catgacgctg 500
 gtcattatct tgctgcatgt attctggggc attgtatttt ttgatggctg 550
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 tggtgtcagc ccagacette ataagttett attatggaat aaacetggeg 650
 tcagcattta taatcctggt gctcatgggc acctgggcat tcttagctgc 700
 actttcttct ttacaaccag cgctccagat aacctcaggg aaccagcact 800
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 ta 902
 <210> 225
 <211> 257
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<213> Homo sapiens

<400> 225

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Pro Ala Leu Ala Leu Tyr Val Phe Thr Ile Ala Ile Glu Pro Leu 20 25 30

Arg Ile Ile Phe Leu Ile Ala Gly Ala Phe Phe Trp Leu Val Ser 35 40

Leu Leu Ile Ser Ser Leu Val Trp Phe Met Ala Arg Val Ile Ile 50 55 60

Asp Asn Lys Asp Gly Pro Thr Gln Lys Tyr Leu Leu Ile Phe Gly 65 70 75

Ala Phe Val Ser Val Tyr Ile Gln Glu Met Phe Arg Phe Ala Tyr 80 85 90

Tyr Lys Leu Leu Lys Lys Ala Ser Glu Gly Leu Lys Ser Ile Asn 95 100 105

Pro Gly Glu Thr Ala Pro Ser Met Arg Leu Leu Ala Tyr Val Ser 110 115 120

Gly Leu Gly Phe Gly Ile Met Ser Gly Val Phe Ser Phe Val Asn 125 130

Thr Leu Ser Asp Ser Leu Gly Pro Gly Thr Val Gly Ile His Gly 140 145 150

Asp Ser Pro Gln Phe Phe Leu Tyr Ser Ala Phe Met Thr Leu Val 155 160 165

Ile Ile Leu Leu His Val Phe Trp Gly Ile Val Phe Phe Asp Gly
170 175

Cys Glu Lys Lys Trp Gly Ile Leu Leu Ile Val Leu Leu Thr 185 190 190

His Leu Leu Val Ser Ala Gln Thr Phe Ile Ser Ser Tyr Tyr Gly
200 205 210

Ile Asn Leu Ala Ser Ala Phe Ile Ile Leu Val Leu Met Gly Thr 215 220 225

Trp Ala Phe Leu Ala Ala Gly Gly Ser Cys Arg Ser Leu Lys Leu 230 235 240

Cys Leu Leu Cys Gln Asp Lys Asn Phe Leu Leu Tyr Asn Gln Arg  $245 \hspace{1.5cm} 250 \hspace{1.5cm} 255$ 

Ser Arg

<210> 226

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<211> 3939
<212> DNA
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<213> Homo sapiens

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<210> 227
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<sup>&</sup>lt;211> 832

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 227

Met Phe Ala Leu Gly Leu Pro Phe Leu Val Leu Leu Val Ala Ser 1 5 10 15

Val Glu Ser His Leu Gly Val Leu Gly Pro Lys Asn Val Ser Gln 20 25 30

Lys Asp Ala Glu Phe Glu Arg Thr Tyr Val Asp Glu Val Asn Ser Glu Leu Val Asn Ile Tyr Thr Phe Asn His Thr Val Thr Arg Asn Arg Thr Glu Gly Val Arg Val Ser Val Asn Val Leu Asn Lys Gln Lys Gly Ala Pro Leu Leu Phe Val Val Arg Gln Lys Glu Ala Val Val Ser Phe Gln Val Pro Leu Ile Leu Arg Gly Met Phe Gln Arg Lys Tyr Leu Tyr Gln Lys Val Glu Arg Thr Leu Cys Gln Pro Pro 115 Thr Lys Asn Glu Ser Glu Ile Gln Phe Phe Tyr Val Asp Val Ser 130 Thr Leu Ser Pro Val Asn Thr Thr Tyr Gln Leu Arg Val Ser Arg Met Asp Asp Phe Val Leu Arg Thr Gly Glu Gln Phe Ser Phe Asn 155 Thr Thr Ala Ala Gln Pro Gln Tyr Phe Lys Tyr Glu Phe Pro Glu Gly Val Asp Ser Val Ile Val Lys Val Thr Ser Asn Lys Ala Phe Pro Cys Ser Val Ile Ser Ile Gln Asp Val Leu Cys Pro Val Tyr Asp Leu Asp Asn Asn Val Ala Phe Ile Gly Met Tyr Gln Thr Met Thr Lys Lys Ala Ala Ile Thr Val Gln Arg Lys Asp Phe Pro Ser Asn Ser Phe Tyr Val Val Val Val Lys Thr Glu Asp Gln Ala Cys Gly Gly Ser Leu Pro Phe Tyr Pro Phe Ala Glu Asp Glu Pro Val Asp Gln Gly His Arg Gln Lys Thr Leu Ser Val Leu Val Ser Gln Ala Val Thr Ser Glu Ala Tyr Val Ser Gly Met Leu Phe Cys Leu Gly Ile Phe Leu Ser Phe Tyr Leu Leu Thr Val Leu Leu Ala Cys Trp Glu Asn Trp Arg Gln Lys Lys Lys Thr Leu Leu Val Ala

				320					325					330
Ile	Asp	Arg	Ala	Cys 335	Pro	Glu	Ser	Gly	His 340	Pro	Arg	Val	Leu	Ala 345
Asp	Ser	Phe	Pro	Gly 350	Ser	Ser	Pro	Tyr	Glu 355	Gly	Tyr	Asn	Tyr	Gly 360
Ser	Phe	Glu	Asn	Val 365	Ser	Gly	Ser	Thr	Asp 370	Gly	Leu	Val	Asp	Ser 375
Ala	Gly	Thr	Gly	Asp 380	Leu	Ser	Tyr	Gly	Tyr 385	Gln	Gly	Arg	Ser	Phe 390
Glu	Pro	Val	Gly	Thr 395	Arg	Pro	Arg	Val	Asp 400	Ser	Met	Ser	Ser	Val 405
Glu	Glu	Asp	Asp	Tyr 410	Asp	Thr	Leu	Thr	Asp 415	Ile	Asp	Ser	Asp	Lys 420
Asn	Val	Ile	Arg	Thr 425	Lys	Gln	Tyr	Leu	Tyr 430	Val	Ala	Asp	Leu	Ala 435
Arg	Lys	Asp	Lys	Arg 440	Val	Leu	Arg	Lys	Lys 445	Tyr	Gln	Ile	Tyr	Phe 450
Trp	Asn	Ile	Ala	Thr 455	Ile	Ala	Val	Phe	Tyr 460	Ala	Leu	Pro	Val	Val 465
Gln	Leu	Val	Ile	Thr 470	Tyr	Gln	Thr	Val	Val 475	Asn	Val	Thr	Gly	Asn 480
Gln	Asp	Ile	Cys	Tyr 485	Tyr	Asn	Phe	Leu	Cys 490	Ala	His	Pro	Leu	Gly 495
Asn	Leu	Ser	Ala	Phe 500	Asn	Asn	Ile	Leu	Ser 505	Asn	Leu	Gly	Tyr	Ile 510
Leu	Leu	Gly	Leu	Leu 515	Phe	Leu	Leu	Ile	Ile 520	Leu	Gln	Arg	Glu	Ile 525
Asn	His	Asn	Arg	Ala 530	Leu	Leu	Arg	Asn	Asp 535	Leu	Cys	Ala	Leu	Glu 540
Суз	Gly	Ile	Pro	Lys 545	His	Phe	Gly	Leu	Phe 550	Tyr	Ala	Met	Gly	Thr 555
Ala	Leu	Met	Met	Glu 560	Gly	Leu	Leu	Ser	Ala 565	Суѕ	Tyr	His	Val	Cys 570
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Ile	Ala	Gly	Leu	Cys 590	Met	Leu	Lys	Leu	Tyr 595	Gln	Lys	Arg	His	Pro 600
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Leu Leu Ser Thr Gln Leu Tyr Tyr Met Gly Arg Trp Lys Leu
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Gly Leu Ile Met Arg Pro Asn Asp Phe Ala Ser Tyr Leu Leu Ala
Ile Gly Ile Cys Asn Leu Leu Leu Tyr Phe Ala Phe Tyr Ile Ile
Met Lys Leu Arg Ser Gly Glu Arg Ile Lys Leu Ile Pro Leu Leu
Cys Ile Val Cys Thr Ser Val Val Trp Gly Phe Ala Leu Phe Phe
Phe Phe Gln Gly Leu Ser Thr Trp Gln Lys Thr Pro Ala Glu Ser
Arg Glu His Asn Arg Asp Cys Ile Leu Leu Asp Phe Phe Asp Asp
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<sup>&</sup>lt;211> 807

<sup>&</sup>lt;212> PRT

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<sup>&</sup>lt;400> 229

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<212> PRT

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Ser Asn Asn Leu Lys Leu Asn Phe Trp Lys Ser Pro Ser Ser Phe 50 55 60

Asn Arg Pro Val Asp Val Leu Val Pro Ser Val Ser Leu Gln Ala 65 70 75

Phe Lys Ser Phe Leu Arg Ser Gln Gly Leu Glu Tyr Ala Val Thr 80 85 90

Ile Glu Asp Leu Gln Ala Leu Leu Asp Asn Glu Asp Asp Glu Met
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Gln His Asn Glu Gly Gln Glu Arg Ser Ser Asn Asn Phe Asn Tyr 110 115 120

Gly Ala Tyr His Ser Leu Glu Ala Ile Tyr His Glu Met Asp Asn 125 130 135

Ile Ala Ala Asp Phe Pro Asp Leu Ala Arg Arg Val Lys Ile Gly
140 145 150

His Ser Phe Glu Asn Arg Pro Met Tyr Val Leu Lys Phe Ser Thr 155 160 165

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Ser Leu Asn Thr Asp Phe Ala Phe Arg Leu Tyr Arg Arg Leu Val
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Leu Glu Thr Pro Ser Gln Asn Ile Phe Phe Ser Pro Val Ser Val 65 70 75

Ser Thr Ser Leu Ala Met Leu Ser Leu Gly Ala His Ser Val Thr  $80 \\ 85 \\ 90$ 

Lys Thr Gln Ile Leu Gln Gly Leu Gly Phe Asn Leu Thr His Thr 95 100 105

Pro Glu Ser Ala Ile His Gln Gly Phe Gln His Leu Val His Ser 110 115 120

Leu Thr Val Pro Ser Lys Asp Leu Thr Leu Lys Met Gly Ser Ala 125 130 135

Leu Phe Val Lys Lys Glu Leu Gln Leu Gln Ala Asn Phe Leu Gly 140 145 150

Asn Val Lys Arg Leu Tyr Glu Ala Glu Val Phe Ser Thr Asp Phe 155 160 165

Ser Asn Pro Ser Ile Ala Gln Ala Arg Ile Asn Ser His Val Lys 170 175 180

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Pro	Phe	Leu	Val	Gly 230	Glu	Gln	Val	Thr	Val 235	Gln	Val	Pro	Met	Met 240
His	Gln	Lys	Glu	Gln 245	Phe	Ala	Phe	Gly	Val 250	Asp	Thr	Glu	Leu	Asn 255
Cys	Phe	Val	Leu	Gln 260	Met	Asp	Tyr	Lys	Gly 265	Asp	Ala	Val	Ala	Phe 270
Phe	Val	Leu	Pro	Ser 275	Lys	Gly	Lys	Met	Arg 280	Gln	Leu	Glu	Gln	Ala 285
Leu	Ser	Ala	Arg	Thr 290	Leu	Ile	Lys	Trp	Ser 295	His	Ser	Leu	Gln	Lys 300
Arg	Trp	Ile	Glu	Val 305	Phe	Ile	Pro	Arg	Phe 310	Ser	Ile	Ser	Ala	Ser 315
Tyr	Asn	Leu	Glu	Thr 320	Ile	Leu	Pro	Lys	Met 325	Gly	Ile	Gln	Asn	Ala 330
Phe	Asp	Lys	Asn	Ala 335	Asp	Phe	Ser	Gly	Ile 340	Ala	Lys	Arg	Asp	Ser 345
Leu	Gln	Val	Ser	Lys 350	Ala	Thr	His	Lys	Ala 355	Val	Leu	Asp	Val	Ser 360
Glu	Glu	Gly	Thr	Glu 365	Ala	Thr	Ala	Ala	Thr 370	Thr	Thr	Lys	Phe	Ile 375
Val	Arg	Ser	Lys	Asp 380	Gly	Pro	Ser	Tyr	Phe 385	Thr	Val	Ser	Phe	Asn 390
Arg	Thr	Phe	Leu	Met 395	Met	Ile	Thr	Asn	Lys 400	Ala	Thr	Asp	Gly	Ile 405
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Ala Asn Thr Gly Ser Ser Val Ile Ser Ser Gly Ala Ser Thr Ala 35 40 45

Thr Asn Ser Gly Ser Ser Val Thr Ser Ser Gly Val Ser Thr Ala 50 55 60

Thr Ile Ser Gly Ser Ser Val Thr Ser Asn Gly Val Ser Ile Val

Thr Asn Ser Glu Phe His Thr Thr Ser Ser Gly Ile Ser Thr Ala Thr Asn Ser Glu Phe Ser Thr Ala Ser Ser Gly Ile Ser Ile Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 110 Thr Asn Ser Glu Ser Ser Thr Pro Ser Ser Gly Ala Ser Thr Val 125 Thr Asn Ser Gly Ser Ser Val Thr Ser Ser Gly Ala Ser Thr Ala 145 Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Arg Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Leu Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Arq Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 235 Thr Asn Ser Glu Ser Arg Thr Thr Ser Asn Gly Ala Gly Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Asp Ser Ser Thr Val Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Gly Thr Ala 320 Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ile Ser Thr Val Thr Asn Ser Glu Ser Ser Thr Pro Ser Ser Gly Ala Asn Thr Ala 350 355 Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Asn Thr Ala

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Thr	Asn	Ser	Glu	Ser 395	Ser	Thr	Thr	Ser	Ser 400	Gly	Val	Ser	Thr	Ala 405
Thr	Asn	Ser	Glu	Ser 410	Ser	Thr	Thr	Ser	Ser 415	Gly	Ala	Ser	Thr	Ala 420
Thr	Asn	Ser	Asp	Ser 425	Ser	Thr	Thr	Ser	Ser 430	Glu	Ala	Ser	Thr	Ala 435
Thr	Asn	Ser	Glu	Ser 440	Ser	Thr	Val	Ser	Ser 445	Gly	Ile	Ser	Thr	Val 450
Thr	Asn	Ser	Glu	Ser 455	Ser	Thr	Thr	Ser	Ser 460	Gly	Ala	Asn	Thr	Ala 465
Thr	Asn	Ser	Gly	Ser 470	Ser	Val	Thr	Ser	Ala 475	Gly	Ser	Gly	Thr	Ala 480
Ala	Leu	Thr	Gly	Met 485	His	Thr	Thr	Ser	His 490	Ser	Ala	Ser	Thr	Ala 495
Val	Ser	Glu	Ala	Lys 500	Pro	Gly	Gly	Ser	Leu 505	Val	Pro	Trp	Glu	Ile 510
Phe	Leu	Ile	Thr	Leu 515	Val	Ser	Val	Val	Ala 520	Ala	Val	Gly	Leu	Phe 525
Ala	Gly	Leu	Phe	Phe 530	Cys	Val	Arg	Asn	Ser 535	Leu	Ser	Leu	Arg	Asn 540
Thr	Phe	Asn	Thr	Ala 545	Val	Tyr	His	Pro	His 550	Gly	Leu	Asn	His	Gly 555
Leu	Gly	Pro	Gly	Pro 560	Gly	Gly	Asn	His	Gly 565	Ala	Pro	His	Arg	Pro 570
Arg	Trp	Ser	Pro	Asn 575	Trp	Phe	Trp	Arg	Arg 580	Pro	Val	Ser	Ser	Ile 585
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<400> 248

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Lys Val Ile Glu Gly Ile Asn Arg Gly Leu Ser Asn Ala Glu Arg 35 40 45

Ala Gly Arg Glu Val Glu Lys Val Phe Asn Gly Leu Ser Asn Met 65 70 75

Gly Ser His Thr Gly Lys Glu Leu Asp Lys Gly Val Gln Gly Leu 80 85 90

Asn His Gly Met Asp Lys Val Ala His Glu Ile Asn His Gly Ile 95 100 105

Gly Gln Ala Gly Lys Glu Ala Glu Lys Leu Gly His Gly Val Asn 110 115 120

Asn Ala Ala Gly Gln Ala Gly Lys Glu Ala Asp Lys Ala Val Gln 125 130 135

Gly Phe His Thr Gly Val His Gln Ala Gly Lys Glu Ala Glu Lys 140 145 150

Leu Gly Gln Gly Val Asn His Ala Ala Asp Gln Ala Gly Lys Glu 155 160 165

Val Glu Lys Leu Gly Gln Gly Ala His His Ala Ala Gly Gln Ala 170 175 180

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Gly Lys Glu Leu Gln Asn Ala His Asn Gly Val Asn Gln Ala Ser
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 Lys Glu Ala Asn Gln Leu Leu Asn Gly Asn His Gln Ser Gly Ser
 Ser Ser His Gln Gly Gly Ala Thr Thr Pro Leu Ala Ser Gly
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 Ala Ser Val Asn Thr Pro Phe Ile Asn Leu Pro Ala Leu Trp Arg
                 230
                                      235
 Ser Val Ala Asn Ile Met Pro
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Leu Leu Leu Leu Gln Pro Pro Pro Pro Thr Trp Ala Leu Ser

Pro Arg Ile Ser Leu Pro Leu Gly Ser Glu Glu Arg Pro Phe Leu 50 55 60

Ser Arg Asp Gly Arg Thr Leu Tyr Val Gly Ala Arg Glu Ala Leu

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Gln	Glu	Leu	Leu	Trp 110	Gly	Ala	Asp	Ala	Glu 115	Lys	Lys	Gln	Gln	Cys 120
Ser	Phe	Lys	Gly	Lys 125	Asp	Pro	Gln	Arg	Asp 130	Cys	Gln	Asn	Tyr	Ile 135
Lys	Ile	Leu	Leu	Pro 140	Leu	Ser	Gly	Ser	His 145	Leu	Phe	Thr	Суз	Gly 150
Thr	Ala	Ala	Phe	Ser 155	Pro	Met	Cys	Thr	Tyr 160	Ile	Asn	Met	Glu	Asn 165
Phe	Thr	Leu	Ala	Arg 170	Asp	Glu	Lys	Gly	Asn 175	Val	Leu	Leu	Glu	Asp 180
Gly	Lys	Gly	Arg	Cys 185	Pro	Phe	Asp	Pro	Asn 190	Phe	Lys	Ser	Thr	Ala 195
Leu	Val	Val	Asp	Gly 200	Glu	Leu	Tyr	Thr	Gly 205	Thr	۷al	Ser	Ser	Phe 210
Gln	Gly	Asn	Asp	Pro 215	Ala	Ile	Ser	Arg	Ser 220	Gln	Ser	Leu	Arg	Pro 225
Thr	Lys	Thr	Glu	Ser 230	Ser	Leu	Asn	Trp	Leu 235	Gln	Asp	Pro	Ala	Phe 240
Val	Ala	Ser	Ala	Tyr 245	Ile	Pro	Glu	Ser	Leu 250	Gly	Ser	Leu	Gln	Gly 255
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Cys	Lys	Gly	Asp	Glu 290	Gly	Gly	Glu	Arg	Val 295	Leu	Gln	Gln	Arg	Trp 300
Thr	Ser	Phe	Leu	Lys 305	Ala	Gln	Leu	Leu	Cys 310	Ser	Arg	Pro	Asp	Asp 315
Gly	Phe	Pro	Phe	Asn 320	Val	Leu	Gln	Asp	Val 325	Phe	Thr	Leu	Ser	Pro 330
Ser	Pro	Gln	Asp	Trp 335	Arg	Asp	Thr	Leu	Phe 340	Tyr	Gly	Val	Phe	Thr 345
Ser	Gln	Trp	His	Arg 350	Gly	Thr	Thr	Glu	Gly 355	Ser	Ala	Val	Cys	Val 360
Phe	Thr	Met	Lys	Asp 365	Val	Gln	Arg	Val	Phe 370	Ser	Gly	Leu	Tyr	Lys 375

Glu Val Asn Arg Glu Thr Gln Gln Trp Tyr Thr Val Thr His Pro 380 385 Val Pro Thr Pro Arg Pro Gly Ala Cys Ile Thr Asn Ser Ala Arg 395 400 Glu Arg Lys Ile Asn Ser Ser Leu Gln Leu Pro Asp Arg Val Leu Asn Phe Leu Lys Asp His Phe Leu Met Asp Gly Gln Val Arg Ser Arg Met Leu Leu Gln Pro Gln Ala Arg Tyr Gln Arg Val Ala Val His Arg Val Pro Gly Leu His His Thr Tyr Asp Val Leu Phe Leu Gly Thr Gly Asp Gly Arq Leu His Lys Ala Val Ser Val Gly Pro Arg Val His Ile Ile Glu Glu Leu Gln Ile Phe Ser Ser Gly Gln Pro Val Gln Asn Leu Leu Leu Asp Thr His Arg Gly Leu Leu Tyr Ala Ala Ser His Ser Gly Val Val Gln Val Pro Met Ala Asn Cys Ser Leu Tyr Arg Ser Cys Gly Asp Cys Leu Leu Ala Arg Asp Pro Tyr Cys Ala Trp Ser Gly Ser Ser Cys Lys His Val Ser Leu Tyr Gln Pro Gln Leu Ala Thr Arg Pro Trp Ile Gln Asp Ile Glu Gly Ala Ser Ala Lys Asp Leu Cys Ser Ala Ser Ser Val Val Ser Pro Ser Phe Val Pro Thr Gly Glu Lys Pro Cys Glu Gln Val Gln Phe Gln Pro Asn Thr Val Asn Thr Leu Ala Cys Pro Leu Leu Ser Asn Leu Ala Thr Arg Leu Trp Leu Arg Asn Gly Ala Pro Val Asn 620 Ala Ser Ala Ser Cys His Val Leu Pro Thr Gly Asp Leu Leu Val Gly Thr Gln Gln Leu Gly Glu Phe Gln Cys Trp Ser Leu Glu 660 Glu Gly Phe Gln Gln Leu Val Ala Ser Tyr Cys Pro Glu Val Val

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Val	Ile	Ile	Ser	Thr 695	Ser	Arg	Val	Ser	Ala 700	Pro	Ala	Gly	Gly	Lys 705
Ala	Ser	Trp	Gly	Ala 710	Asp	Arg	Ser	Tyr	Trp 715	Lys	Glu	Phe	Leu	Val 720
Met	Cys	Thr	Leu	Phe 725	Val	Leu	Ala	Val	Leu 730	Leu	Pro	Val	Leu	Phe 735
Leu	Leu	Tyr	Arg	His 740	Arg	Asn	Ser	Met	Lys 745	Val	Phe	Leu	Lys	Gln 750
Gly	Glu	Cys	Ala	Ser 755	Val	His	Pro	Lys	Thr 760	Суѕ	Pro	Val	Val	Leu 765
Pro	Pro	Glu	Thr	Arg 770	Pro	Leu	Asn	Gly	Leu 775	Gly	Pro	Pro	Ser	Thr 780
Pro	Leu	Asp	His	Arg 785	Gly	Tyr	Gln	Ser	Leu 790	Ser	Asp	Ser	Pro	Pro 795
Gly	Ala	Arg	Val	Phe 800	Thr	Glu	Ser	Glu	Lys 805	Arg	Pro	Leu	Ser	Ile 810
Gln	Asp	Ser	Phe	Val 815	Glu	Val	Ser	Pro	Val 820	Cys	Pro	Arg	Pro	Arg 825
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<212> PRT

<213> Homo sapiens

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Glu Gly Cys Arg Ser Gly Gln Ala Ala Ala Ser Gln Ala Gly Gly
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Ala Arg Gly Asp Ala Arg Gly Ala Gln Leu Trp Pro Pro Gly Ser
65 70 75

Asp Pro Asp Gly Gly Pro Arg Asp Arg Asn Phe Leu Phe Val Gly 80 85 90

Val Met Thr Ala Gln Lys Tyr Leu Gln Thr Arg Ala Val Ala Ala 95 100 105

Tyr Arg Thr Trp Ser Lys Thr Ile Pro Gly Lys Val Gln Phe Phe 110 115 120

Ser Ser Glu Gly Ser Asp Thr Ser Val Pro Ile Pro Val Val Pro 125 130 135

Leu Arg Gly Val Asp Asp Ser Tyr Pro Pro Gln Lys Lys Ser Phe 140 145 150

Met Met Leu Lys Tyr Met His Asp His Tyr Leu Asp Lys Tyr Glu 155 160 165

Trp Phe Met Arg Ala Asp Asp Asp Val Tyr Ile Lys Gly Asp Arg
170 175 180

Leu Glu Asn Phe Leu Arg Ser Leu Asn Ser Ser Glu Pro Leu Phe 185 190 195

Leu Gly Gln Thr Gly Leu Gly Thr Thr Glu Glu Met Gly Lys Leu  $200 \hspace{1.5cm} 205 \hspace{1.5cm} 210 \hspace{1.5cm}$ 

Ala Leu Glu Pro Gly Glu Asn Phe Cys Met Gly Gly Pro Gly Val 215 220 225

Ile Met Ser Arg Glu Val Leu Arg Arg Met Val Pro His Ile Gly 230 235 240

Lys Cys Leu Arq Glu Met Tyr Thr Thr His Glu Asp Val Glu Val Gly Arg Cys Val Arg Arg Phe Ala Gly Val Gln Cys Val Trp Ser Tyr Glu Met Arg Gln Leu Phe Tyr Glu Asn Tyr Glu Gln Asn Lys Lys Gly Tyr Ile Arg Asp Leu His Asn Ser Lys Ile His Gln Ala Ile Thr Leu His Pro Asn Lys Asn Pro Pro Tyr Gln Tyr Arg Leu His Ser Tyr Met Leu Ser Arg Lys Ile Ser Glu Leu Arg His Arg Thr Ile Gln Leu His Arg Glu Ile Val Leu Met Ser Lys Tyr Ser Asn Thr Glu Ile His Lys Glu Asp Leu Gln Leu Gly Ile Pro Pro Ser Phe Met Arg Phe Gln Pro Arg Gln Arg Glu Glu Ile Leu Glu 365 Trp Glu Phe Leu Thr Gly Lys Tyr Leu Tyr Ser Ala Val Asp Gly Gln Pro Pro Arg Arg Gly Met Asp Ser Ala Gln Arg Glu Ala Leu Asp Asp Ile Val Met Gln Val Met Glu Met Ile Asn Ala Asn Ala 410 Lys Thr Arg Gly Arg Ile Ile Asp Phe Lys Glu Ile Gln Tyr Gly 425 Tyr Arg Arg Val Asn Pro Met Tyr Gly Ala Glu Tyr Ile Leu Asp Leu Leu Leu Tyr Lys Lys His Lys Gly Lys Lys Met Thr Val Pro Val Arg Arg His Ala Tyr Leu Gln Gln Thr Phe Ser Lys Ile Gln Phe Val Glu His Glu Glu Leu Asp Ala Gln Glu Leu Ala Lys 485 Arg Ile Asn Gln Glu Ser Gly Ser Leu Ser Phe Leu Ser Asn Ser 505 Leu Lys Lys Leu Val Pro Phe Gln Leu Pro Gly Ser Lys Ser Glu 515 His Lys Glu Pro Lys Asp Lys Ile Asn Ile Leu Ile Pro Leu

				530					535					540
Ser	Gly	Arg	Phe	Asp 545	Met	Phe	Val	Arg	Phe 550	Met	Gly	Asn	Phe	Glu 555
Lys	Thr	Cys	Leu	Ile 560	Pro	Asn	Gln	Asn	Val 565	Lys	Leu	Val	Val	Leu 570
Leu	Phe	Asn	Ser	Asp 575	Ser	Asn	Pro	Asp	Lys 580	Ala	Lys	Gln	Val	Glu 585
Leu	Met	Arg	Asp	Tyr 590	Arg	Ile	Lys	Tyr	Pro 595	Lys	Ala	Asp	Met	Gln 600
Ile	Leu	Pro	Val	Ser 605	Gly	Glu	Phe	Ser	Arg 610	Ala	Leu	Ala	Leu	Glu 615
Val	Gly	Ser	Ser	Gln 620	Phe	Asn	Asn	Glu	Ser 625	Leu	Leu	Phe	Phe	Cys 630
Asp	Val	Asp	Leu	Val 635	Phe	Thr	Thr	Glu	Phe 640	Leu	Gln	Arg	Cys	Arg 645
Ala	Asn	Thr	Val	Leu 650	Gly	Gln	Gln	Ile	Tyr 655	Phe	Pro	Ile	Ile	Phe 660
Ser	Gln	Tyr	Asp	Pro 665	Lys	Ile	Val	Tyr	Ser 670	Gly	Lys	Val	Pro	Ser 675
Asp	Asn	His	Phe	Ala 680	Phe	Thr	Gln	Lys	Thr 685	Gly	Phe	Trp	Arg	Asn 690
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Val	Gly	Gly	Phe	Asp 710	Val	Ser	Ile	Gln	Gly 715	Trp	Gly	Leu	Glu	Asp 720
Val	Asp	Leu	Phe	Asn 725	Lys	Val	Val	Gln	Ala 730	Gly	Leu	Lys	Thr	Phe 735
Arg	Ser	Gln	Glu	Val 740	Gly	Val	Val	His	Val 745	His	His	Pro	Val	Phe 750
Cys	Asp	Pro	Asn	Leu 755	Asp	Pro	Lys	Gln	Tyr 760	Lys	Met	Cys	Leu	Gly 765
Ser	Lys	Ala	Ser	Thr 770	Tyr	Gly	Ser	Thr	Gln 775	Gln	Leu	Ala	Glu	Met 780
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<211> 350

<212> PRT

<213> Homo sapiens

<400> 265

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Gln Asn Leu Asn His Tyr Ile Gln Val Leu Glu Asn Leu Val Arg
35 40 45

Ser Val Pro Ser Gly Glu Pro Gly Arg Glu Lys Lys Ser Asn Ser

				50					55					60
Pro	Lys	His	Val	Tyr 65	Ser	Ile	Ala	Ser	Lys 70	Gly	Ser	Lys	Phe	Lys 75
Glu	Leu	Val	Thr	His 80	Gly	Asp	Ala	Ser	Thr 85	Glu	Asn	Asp	Val	Leu 90
Thr	Asn	Pro	Ile	Ser 95	Glu	Glu	Thr	Thr	Thr 100	Phe	Pro	Thr	Gly	Gly 105
Phe	Thr	Pro	Glu	Ile 110	Gly	Lys	Lys	Lys	His 115	Thr	Glu	Ser	Thr	Pro 120
Phe	Trp	Ser	Ile	Lys 125	Pro	Asn	Asn	Val	Ser 130	Ile	Val	Leu	His	Ala 135
Glu	Glu	Pro	Tyr	Ile 140	Glu	Asn	Glu	Glu	Pro 145	Glu	Pro	Glu	Pro	Glu 150
Pro	Ala	Ala	Lys	Gln 155	Thr	Glu	Ala	Pro	Arg 160	Met	Leu	Pro	Val	Val 165
Thr	Glu	Ser	Ser	Thr 170	Ser	Pro	Tyr	Val	Thr 175	Ser	Tyr	Lys	Ser	Pro 180
Val	Thr	Thr	Leu	Asp 185	Lys	Ser	Thr	Gly	Ile 190	Glu	Ile	Ser	Thr	Glu 195
Ser	Glu	Asp	Val	Pro 200	Gln	Leu	Ser	Gly	Glu 205	Thr	Ala	Ile	Glu	Lys 210
Pro	Glu	Glu	Phe	Gly 215	Lys	His	Pro	Glu	Ser 220	Trp	Asn	Asn	Asp	Asp 225
Ile	Leu	Lys	Lys	Ile 230	Leu	Asp	Ile	Asn	Ser 235	Gln	Val	Gln	Gln	Ala 240
Leu	Leu	Ser	Asp	Thr 245	Ser	Asn	Pro	Ala	Tyr 250	Arg	Glu	Asp	Ile	Glu 255
Ala	Ser	Lys	Asp	His 260	Leu	Lys	Arg	Ser	Leu 265	Ala	Leu	Ala	Ala	Ala 270
Ala	Glu	His	Lys	Leu 275	Lys	Thr	Met	Tyr	Lys 280	Ser	Gln	Leu	Leu	Pro 285
Val	Gly	Arg	Thr	Ser 290	Asn	Lys	Ile	Asp	Asp 295	Ile	Glu	Thr	Val	Ile 300
Asn	Met	Leu	Cys	Asn 305	Ser	Arg	Ser	Lys	Leu 310	Tyr	Glu	Tyr	Leu	Asp 315
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## Leu Leu Lys Val Tyr

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<213> Homo sapiens

<400> 266

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<210> 267

aaa 2403

<211> 466

<212> PRT

<213> Homo sapiens

<400> 267

Met Ala Phe Val Leu Ile Leu Val Leu Ser Phe Tyr Glu Leu Val 1 5 10 15

Ser Gly Gln Trp Gln Val Thr Gly Pro Gly Lys Phe Val Gln Ala

				20					25					30
Leu	Val	Gly	Glu	Asp 35	Ala	Val	Phe	Ser	Cys 40	Ser	Leu	Phe	Pro	Glu 45
Thr	Ser	Ala	Glu	Ala 50	Met	Glu	Val	Arg	Phe 55	Phe	Arg	Asn	Gln	Phe 60
His	Ala	Val	Val	His 65	Leu	Tyr	Arg	Asp	Gly 70	Glu	Asp	Trp	Glu	Ser 75
Lys	Gln	Met	Pro	Gln 80	Tyr	Arg	Gly	Arg	Thr 85	Glu	Phe	Val	Lys	Asp 90
Ser	Ile	Ala	Gly	Gly 95	Arg	Val	Ser	Leu	Arg 100	Leu	Lys	Asn	Ile	Thr 105
Pro	Ser	Asp	Ile	Gly 110	Leu	Tyr	Gly	Cys	Trp 115	Phe	Ser	Ser	Gln	Ile 120
Tyr	Asp	Glu	Glu	Ala 125	Thr	Trp	Glu	Leu	Arg 130	Val	Ala	Ala	Leu	Gly 135
Ser	Leu	Pro	Leu	Ile 140	Ser	Ile	Val	Gly	Tyr 145	Val	Asp	Gly	Gly	Ile 150
Gln	Leu	Leu	Cys	Leu 155	Ser	Ser	Gly	Trp	Phe 160	Pro	Gln	Pro	Thr	Ala 165
Lys	Trp	Lys	Gly	Pro 170	Gln	Gly	Gln	Asp	Leu 175	Ser	Ser	Asp	Ser	Arg 180
Ala	Asn	Ala	Asp	Gly 185	Tyr	Ser	Leu	Tyr	Asp 190	Val	Glu	Ile	Ser	Ile 195
Ile	Val	Gln	Glu	Asn 200	Ala	Gly	Ser	Ile	Leu 205	Cys	Ser	Ile	His	Leu 210
Ala	Glu	Gln	Ser	His 215	Glu	Val	Glu	Ser	Lys 220	Val	Leu	Ile	Gly	Glu 225
Thr	Phe	Phe	Gln	Pro 230	Ser	Pro	Trp	Arg	Leu 235	Ala	Ser	Ile	Leu	Leu 240
Gly	Leu	Leu	Cys	Gly 245	Ala	Leu	Cys	Gly	Val 250	Val	Met	Gly	Met	Ile 255
Ile	Val	Phe	Phe	Lys 260	Ser	Lys	Gly	Lys	Ile 265	Gln	Ala	Glu	Leu	Asp 270
Trp	Arg	Arg	Lys	His 275	Gly	Gln	Ala	Glu	Leu 280	Arg	Asp	Ala	Arg	Lys 285
His	Ala	Val	Glu	Val 290	Thr	Leu	Asp	Pro	Glu 295	Thr	Ala	His	Pro	Lys 300

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Gln Glu Val Pro His Ser Glu Lys Arg Phe Thr Arg Lys Ser Val
Val Ala Ser Gln Gly Phe Gln Ala Gly Arg His Tyr Trp Glu Val
                335
                                     340
Asp Val Gly Gln Asn Val Gly Trp Tyr Val Gly Val Cys Arg Asp
Asp Val Asp Arg Gly Lys Asn Asn Val Thr Leu Ser Pro Asn Asn
Gly Tyr Trp Val Leu Arg Leu Thr Thr Glu His Leu Tyr Phe Thr
                                     385
Phe Asn Pro His Phe Ile Ser Leu Pro Pro Ser Thr Pro Pro Thr
                                     400
Arg Val Gly Val Phe Leu Asp Tyr Glu Gly Gly Thr Ile Ser Phe
                410
                                                         420
Phe Asn Thr Asn Asp Gln Ser Leu Ile Tyr Thr Leu Leu Thr Cys
                425
                                                         435
                                     430
Gln Phe Glu Gly Leu Leu Arg Pro Tyr Ile Gln His Ala Met Tyr
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Asp Glu Glu Lys Gly Thr Pro Ile Phe Ile Cys Pro Val Ser Trp
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                                                         465
Gly
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<210> 268 <211> 2103

<212> DNA

<213> Homo sapiens

<400> 268

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ctcactcagt taaaattaaa aaaatcaaca agacagaaac agacagctat 550 ctaaaccatt gctgcggaac acgaagaagt aaaactctag gtcagagtct 600 caggatcgtt ggtgggacag aagtagaaga gggtgaatgg ccctggcagg 650 ctagcctgca gtgggatggg agtcatcgct gtggagcaac cttaattaat 700 gccacatggc ttgtgagtgc tgctcactgt tttacaacat ataagaaccc 750 tgccagatgg actgcttcct ttggagtaac aataaaacct tcgaaaatga 800 aacggggtct ccggagaata attgtccatg aaaaatacaa acacccatca 850 catgactatg atatttctct tgcagagctt tctagccctg ttccctacac 900 aaatgcagta catagagttt gtctccctga tgcatcctat gagtttcaac 950 caggtgatgt gatgtttgtg acaggatttg gagcactgaa aaatgatggt 1000 tacagtcaaa atcatcttcg acaagcacag gtgactctca tagacgctac 1050 aacttgcaat gaacctcaag cttacaatga cgccataact cctagaatgt 1100 tatgtgctgg ctccttagaa ggaaaaacag atgcatgcca qqqtqactct 1150 ggaggaccac tggttagttc agatgctaga gatatctggt accttgctgg 1200 aatagtgagc tggggagatg aatgtgcgaa acccaacaag cctggtgttt 1250 atactagagt tacggccttg cgggactgga ttacttcaaa aactggtatc 1300 taagagacaa aagcctcatg gaacagataa cattttttt tgttttttgg 1350 gtgtggaggc catttttaga gatacagaat tggagaagac ttgcaaaaca 1400 gctagatttg actgatctca ataaactgtt tgcttgatgc atgtattttc 1450 ttcccagctc tgttccgcac gtaagcatcc tgcttctgcc agatcaactc 1500 tgtcatctgt gagcaatagt tgaaacttta tgtacataga gaaatagata 1550 atacaatatt acattacagc ctgtattcat ttgttctcta gaagttttgt 1600 cagaattttg acttgttgac ataaatttgt aatgcatata tacaatttga 1650 agcactectt ttetteagtt ceteagetee teteatttea gcaaatatee 1700 attttcaagg tgcagaacaa ggagtgaaag aaaatataag aagaaaaaaa 1750 tcccctacat tttattggca cagaaaagta ttaggtgttt ttcttagtgg 1800 aatattagaa atgatcatat tcattatgaa aggtcaagca aagacagcag 1850 aataccaatc acttcatcat ttaggaagta tgggaactaa gttaaggaag 1900 tccagaaaga agccaagata tatccttatt ttcatttcca aacaactact 1950

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<210> 269

<211> 423

<212> PRT

<213> Homo sapiens

<400> 269

Met Met Tyr Arg Pro Asp Val Val Arg Ala Arg Lys Arg Val Cys
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Trp Glu Pro Trp Val Ile Gly Leu Val Ile Phe Ile Ser Leu Ile
20 25 30

Val Leu Ala Val Cys Ile Gly Leu Thr Val His Tyr Val Arg Tyr
35 40 45

Asn Gln Lys Lys Thr Tyr Asn Tyr Tyr Ser Thr Leu Ser Phe Thr 50 55 60

Thr Asp Lys Leu Tyr Ala Glu Phe Gly Arg Glu Ala Ser Asn Asn 65 70 75

Phe Thr Glu Met Ser Gln Arg Leu Glu Ser Met Val Lys Asn Ala 80 85 90

Phe Tyr Lys Ser Pro Leu Arg Glu Glu Phe Val Lys Ser Gln Val 95 100 105

Ile Lys Phe Ser Gln Gln Lys His Gly Val Leu Ala His Met Leu 110 115 120

Leu Ile Cys Arg Phe His Ser Thr Glu Asp Pro Glu Thr Val Asp 125 130 135

Lys Ile Val Gln Leu Val Leu His Glu Lys Leu Gln Asp Ala Val  $140 \,$   $145 \,$   $150 \,$ 

Gly Pro Pro Lys Val Asp Pro His Ser Val Lys Ile Lys Lys Ile 155 160 165

Asn Lys Thr Glu Thr Asp Ser Tyr Leu Asn His Cys Cys Gly Thr 170 175 180

Arg Arg Ser Lys Thr Leu Gly Gln Ser Leu Arg Ile Val Gly Gly 185 190 195

Thr Glu Val Glu Glu Gly Glu Trp Pro Trp Gln Ala Ser Leu Gln  $200 \hspace{1cm} 205 \hspace{1cm} 210 \hspace{1cm}$ 

Trp Asp Gly Ser His Arg Cys Gly Ala Thr Leu Ile Asn Ala Thr 215 220 225

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Trp Leu Val Ser Ala Ala His Cys Phe Thr Thr Tyr Lys Asn Pro
Ala Arg Trp Thr Ala Ser Phe Gly Val Thr Ile Lys Pro Ser Lys
Met Lys Arg Gly Leu Arg Arg Ile Ile Val His Glu Lys Tyr Lys
His Pro Ser His Asp Tyr Asp Ile Ser Leu Ala Glu Leu Ser Ser
Pro Val Pro Tyr Thr Asn Ala Val His Arg Val Cys Leu Pro Asp
Ala Ser Tyr Glu Phe Gln Pro Gly Asp Val Met Phe Val Thr Gly
Phe Gly Ala Leu Lys Asn Asp Gly Tyr Ser Gln Asn His Leu Arg
Gln Ala Gln Val Thr Leu Ile Asp Ala Thr Thr Cys Asn Glu Pro
Gln Ala Tyr Asn Asp Ala Ile Thr Pro Arg Met Leu Cys Ala Gly
                                    355
Ser Leu Glu Gly Lys Thr Asp Ala Cys Gln Gly Asp Ser Gly Gly
Pro Leu Val Ser Ser Asp Ala Arg Asp Ile Trp Tyr Leu Ala Gly
Ile Val Ser Trp Gly Asp Glu Cys Ala Lys Pro Asn Lys Pro Gly
Val Tyr Thr Arg Val Thr Ala Leu Arg Asp Trp Ile Thr Ser Lys
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Thr Gly Ile

<210> 270

<211> 1170

<212> DNA

<213> Homo sapiens

<400> 270

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gatgagactg agacggcgtg gccgcctttg ccggctgtcc cctgcgacta 300 eqaccactge egacacetge aggtgeeetg caaggageta cagagggteg 350 ggccggcggc ctgcctgtgc ccaggactct ccagccccgc ccagccgccc 400 qaccoqcoqc qcatqqqaqa aqtqcqcatt qcqqccqaaq aqqqccqcqc 450 agtggtccac tggtgtgccc ccttctcccc ggtcctccac tactggctgc 500 tgctttggga cggcagcgag gctgcgcaga aggggccccc gctgaacgct 550 acggtccgca gagccgaact gaaggggctg aagccagggg gcatttatgt 600 cgtttgcgta gtggccgcta acgaggccgg ggcaagccgc gtgccccagg 650 ctggaggaga gggcctcgag ggggccgaca tccctqcctt cgggccttgc 700 agcogcottg cggtgccgcc caaccoccgc actotggtcc acgcggccgt 750 eggggtggge aeggeeetgg eeetgetaag etgtgeegee etggtggge 800 acttctgcct gcgcgatcgc tggggctgcc cgcgccgagc cgccgcccga 850 gccgcagggg cgctctgaaa ggggcctggg ggcatctcgg gcacagacag 900 ccccacctgg ggcgctcagc ctggcccccg ggaaagagga aaacccgctg 950 cctccaggga gggctggacg gcgagctggg agccagcccc aggctccagg 1000 gccacggcgg agtcatggtt ctcaggactg agcgcttgtt taggtccggt 1050 acttggcgct ttgtttcctg gctgaggtct gggaaggaat agaaaggggc 1100 ccccaatttt tttttaagcg gccagataat aaataatgta acctttgcgg 1150 ttaaaaaaaa aaaaaaaaa 1170

<210> 271

<211> 238

<212> PRT

<213> Homo sapiens

<400> 271

Met Leu Gly Ser Pro Cys Leu Leu Trp Leu Leu Ala Val Thr Phe 1 5 10

Leu Val Pro Arg Ala Gln Pro Leu Ala Pro Gln Asp Phe Glu Glu 20 25 30

Glu Glu Ala Asp Glu Thr Glu Thr Ala Trp Pro Pro Leu Pro Ala
35 40 45

Val Pro Cys Asp Tyr Asp His Cys Arg His Leu Gln Val Pro Cys
50 55 60

Lys Glu Leu Gln Arg Val Gly Pro Ala Ala Cys Leu Cys Pro Gly
65 70 75

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Leu Ser Ser Pro Ala Gln Pro Pro Asp Pro Pro Arg Met Gly Glu
Val Arg Ile Ala Ala Glu Glu Gly Arg Ala Val Val His Trp Cys
Ala Pro Phe Ser Pro Val Leu His Tyr Trp Leu Leu Trp Asp
Gly Ser Glu Ala Ala Gln Lys Gly Pro Pro Leu Asn Ala Thr Val
Arg Arg Ala Glu Leu Lys Gly Leu Lys Pro Gly Gly Ile Tyr Val
Val Cys Val Val Ala Ala Asn Glu Ala Gly Ala Ser Arg Val Pro
Gln Ala Gly Glu Gly Leu Glu Gly Ala Asp Ile Pro Ala Phe
Gly Pro Cys Ser Arg Leu Ala Val Pro Pro Asn Pro Arg Thr Leu
Val His Ala Ala Val Gly Val Gly Thr Ala Leu Ala Leu Leu Ser
                200
                                    205
                                                       210
Cys Ala Ala Leu Val Trp His Phe Cys Leu Arg Asp Arg Trp Gly
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Cys Pro Arg Ala Ala Ala Ala Ala Gly Ala Leu
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<210> 272

<211> 2397

<212> DNA

<213> Homo sapiens

<400> 272

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aagtttgctt gtcattttct gtgtagaact ggcttgtggc gtttggacat 550 atgaacagga acttatggtt ccagtacaat ggtcagatat ggtcactttg 600 aaagccagga tgacaaatta tggattacct agatatcggt ggcttactca 650 tgcttggaat ttttttcaga gagagtttaa gtgctgtgga gtagtatatt 700 tcactgactg gttggaaatg acagagatgg actggccccc agattcctgc 750 tgtgttagag aattcccagg atgttccaaa caggcccacc aggaagatct 800 cagtgacctt tatcaagagg gttgtgggaa gaaaatgtat tcctttttga 850 gaggaaccaa acaactgcag gtgctgaggt ttctgggaat ctccattggg 900 gtgacacaaa teetggeeat gatteteace attactetge tetgggetet 950 gtattatgat agaagggagc ctgggacaga ccaaatgatg tccttgaaga 1000 atgacaactc tcagcacctg tcatgtccct cagtagaact gttgaaacca 1050 agoctgtcaa gaatotttga acacacatoo atggcaaaca gotttaatao 1100 acactttqaq atqqaqqaqt tataaaaaqa aatqtcacag aagaaaacca 1150 caaacttgtt ttattggact tgtgaatttt tgagtacata ctatgtgttt 1200 cagaaatatg tagaaataaa aatgttgcca taaaataaca cctaagcata 1250 tactattcta tgctttaaaa tgaggatgga aaagtttcat gtcataagtc 1300 accacctgga caataattga tgcccttaaa atgctgaaga cagatgtcat 1350 acceactgtg tagectgtgt atgactttta etgaacacag ttatgttttg 1400 aggcagcatg gtttgattag catttccgca tccatgcaaa cgagtcacat 1450 atggtgggac tggagccata gtaaaggttg atttacttct accaactagt 1500 atataaagta ctaattaaat gctaacatag gaagttagaa aatactaata 1550 acttttatta ctcagcgatc tattcttctg atgctaaata aattatatat 1600 cagaaaactt tcaatattgg tgactaccta aatgtgattt ttgctggtta 1650 ctaaaatatt cttaccactt aaaagagcaa gctaacacat tgtcttaagc 1700 tgatcaggga ttttttgtat ataagtctgt gttaaatctg tataattcag 1750 tcgatttcag ttctgataat gttaagaata accattatga aaaggaaaat 1800 ttgtcctgta tagcatcatt atttttagcc tttcctgtta ataaagcttt 1850 actattctgt cctgggctta tattacacat ataactgtta tttaaatact 1900 taaccactaa ttttgaaaat taccagtgtg atacatagga atcattattc 1950 agaatgtagt ctggtcttta ggaagtatta ataagaaaat ttgcacataa 2000 cttagttgat tcagaaagga cttgtatgct gttttctcc caaatgaaga 2050 ctctttttga cactaaacac tttttaaaaa gcttatcttt gccttctcca 2100 aacaagaagc aatagtctcc aagtcaatat aaattctaca gaaaatagtg 2150 ttcttttct ccagaaaaat gcttgtgaga atcattaaaa catgtgacaa 2200 tttagagat ctttgttta tttcactgat taatatactg tggcaaatta 2250 cacagattat taaattttt tacaagagta tagtatatt atttgaaatg 2300 ggaaaagtgc attttactgt attttgtgta ttttgtttat ttctcagaat 2350 atggaaagaa aattaaaatg tgtcaataaa tatttctag agagtaa 2397

<210> 273

<211> 305

<212> PRT

<213> Homo sapiens

<400> 273

Met Ala Arg Glu Asp Ser Val Lys Cys Leu Arg Cys Leu Leu Tyr 1 5 10 15

Ala Leu Asn Leu Leu Phe Trp Leu Met Ser Ile Ser Val Leu Ala 20 25 30

Val Ser Ala Trp Met Arg Asp Tyr Leu Asn Asn Val Leu Thr Leu 35 40 45

Thr Ala Glu Thr Arg Val Glu Glu Ala Val Ile Leu Thr Tyr Phe 50 55 60

Pro Val Val His Pro Val Met Ile Ala Val Cys Cys Phe Leu Ile
65 70 75

Ile Val Gly Met Leu Gly Tyr Cys Gly Thr Val Lys Arg Asn Leu 80 85 90

Leu Leu Leu Ala Trp Tyr Phe Gly Ser Leu Leu Val Ile Phe Cys 95 100 105

Val Glu Leu Ala Cys Gly Val Trp Thr Tyr Glu Gln Glu Leu Met 110 115 120

Val Pro Val Gln Trp Ser Asp Met Val Thr Leu Lys Ala Arg Met 125 130 135

Thr Asn Tyr Gly Leu Pro Arg Tyr Arg Trp Leu Thr His Ala Trp 140 145 150

Asn Phe Phe Gln Arg Glu Phe Lys Cys Cys Gly Val Val Tyr Phe 155 160 165

Thr Asp Trp Leu Glu Met Thr Glu Met Asp Trp Pro Pro Asp Ser

				170					175					180
Cys	Cys	Val	Arg	Glu 185	Phe	Pro	Gly	Cys	Ser 190	Lys	Gln	Ala	His	Gln 195
Glu i	Asp	Leu	Ser	Asp 200	Leu	Tyr	Gln	Glu	Gly 205	Cys	Gly	Lys	Lys	Met 210
Tyr	Ser	Phe	Leu	Arg 215	Gly	Thr	Lys	Gln	Leu 220	Gln	Val	Leu	Arg	Phe 225
Leu .	Gly	Ile	Ser	Ile 230	Gly	۷al	Thr	Gln	Ile 235	Leu	Ala	Met	Ile	Leu 240
Thr	Ile	Thr	Leu	Leu 245	Trp	Ala	Leu	Tyr	Tyr 250	Asp	Arg	Arg	Glu	Pro 255
Gly	Thr	Asp	Gln	Met 260	Met	Ser	Leu	Lys	Asn 265	Asp	Asn	Ser	Gln	His 270
Leu	Ser	Cys	Pro	Ser 275	Val	Glu	Leu	Leu	Lys 280	Pro	Ser	Leu	Ser	Arg 285
Ile	Phe	Glu	His	Thr 290	Ser	Met	Ala	Asn	Ser 295	Phe	Asn	Thr	His	Phe 300
Glu 1	Met	Glu	Glu	Leu 305										
<210> 274 <211> 2063 <212> DNA														

<213> Homo sapiens

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<213> Homo sapiens

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Tyr Phe Leu Cys Gly Gln Pro Leu His Phe Ile Pro Arg Lys Gln 65 70 75

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His Cys Val Lys Ser Phe Pro Glu Gly Pro Ala Val Ala Val Arg 95 100 105

Leu Ser Lys Asp Arg Ser Thr Leu Gln Val Leu Asp Ser Ala Thr 110 115 120

Gly Asn Trp Phe Ser Ala Cys Phe Asp Asn Phe Thr Glu Ala Leu 125 130 135

Ala Glu Thr Ala Cys Arg Gln Met Gly Tyr Ser Arg Ala Val Glu 140 145 150

Ile Gly Pro Asp Gln Asp Leu Asp Val Val Glu Ile Thr Glu Asn 155 160 165

Ser Gln Glu Leu Arg Met Arg Asn Ser Ser Gly Pro Cys Leu Ser 170 175 180

Gly Ser Leu Val Ser Leu His Cys Leu Ala Cys Gly Lys Ser Leu 185 190 195

Lys Thr Pro Arg Val Val Gly Gly Glu Glu Ala Ser Val Asp Ser 200 205 210

Trp Pro Trp Gln Val Ser Ile Gln Tyr Asp Lys Gln His Val Cys 215 220 225

Gly Gly Ser Ile Leu Asp Pro His Trp Val Leu Thr Ala Ala His  $230 \hspace{1.5cm} 235 \hspace{1.5cm} 240$ 

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<213> Homo sapiens

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<sup>&</sup>lt;211> 761

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<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 277

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Gly G	ГÀ	Thr	Arg	Ser 335	Ser	Ala	Val	Cys	Ala 340	Phe	Ser	Leu	Leu	Asp 345
Ile G	lu	Arg	Val	Phe 350	Lys	Gly	Lys	Tyr	Lys 355	Glu	Leu	Asn	Lys	Glu 360
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Pro G	Ly	Ser	Cys	Ser 380	Val	Gly	Pro	Ser	Ser 385	Asp	Lys	Ala	Leu	Thr 390
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Pro Le	eu	Leu	Val	Lys 410	Ser	Gly	Val	Glu	Tyr 415	Thr	Arg	Leu	Ala	Val 420
Glu Tl	hr	Ala	Gln	Gly 425	Leu	Asp	Gly	His	Ser 430	His	Leu	Val	Met	Tyr 435
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Asp P	ro	His	Cys	Ala 515	Trp	Asp	Pro	Glu	Ser 520	Arg	Thr	Cys	Cys	Leu 525
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Gly A	sn	Pro	Glu	Trp 545	Ala	Cys	Ala	Ser	Gly 550	Pro	Met	Ser	Arg	Ser 555
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Val P	ro	Asn	Ser	Ile 575	Leu	Glu	Leu	Pro	Cys 580	Pro	His	Leu	Ser	Ala 585

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Asp Gly Val Gly Gly Leu Tyr Gln Cys Trp Ala Thr Glu Asn Gly
Phe Ser Tyr Pro Val Ile Ser Tyr Trp Val Asp Ser Gln Asp Gln
Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly Ile Pro Arg Glu His
Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly Ala Ala Leu Ala
Ala Gln Gln Ser Tyr Trp Pro His Phe Val Thr Val Thr Val Leu
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Ala	Leu	Lys	Met	Lys 425	Gln	Ile	Met	Glu	Asp 430	Lys	Arg	Tyr	Lys	Ser 435
Ala	Ala	Val	Ala	Ala 440	Ser	Val	Ile	Leu	Arg 445	Ser	His	Pro	Leu	Ser 450
Pro	Thr	Gln	Arg	Leu 455	Val	Gly	Trp	Ile	Asp 460	His	Val	Leu	Gln	Thr 465
Gly	Gly	Ala	Thr	His 470	Leu	Lys	Pro	Tyr	Val 475	Phe	Gln	Gln	Pro	Trp 480
His	Glu	Gln	Tyr	Leu 485	Phe	Asp	Val	Phe	Val 490	Phe	Leu	Leu	Gly	Leu 495
Thr	Leu	Gly	Thr	Leu 500	Trp	Leu	Суз	Gly	Lys 505	Leu	Leu	Gly	Met	Ala 510
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Trp Ala Gln Glu Gly Ser Glu Pro Val Leu Leu Glu Gly Glu Cys 35 40 45

Leu Val Val Cys Glu Pro Gly Arg Ala Ala Ala Gly Gly Pro Gly 50 55 60

Gly Ala Ala Leu Gly Glu Ala Pro Pro Gly Arg Val Ala Phe Ala 65 70 75

Gly Thr Ser Gly Ala Ile Tyr Phe Asp Gln Val Leu Val Asn Glu 95 100 105

Gly Gly Gly Phe Asp Arg Ala Ser Gly Ser Phe Val Ala Pro Val 110 115 120

Arg Gly Val Tyr Ser Phe Arg Phe His Val Val Lys Val Tyr Asn 125 130 130

Arg Gln Thr Val Gln Val Ser Leu Met Leu Asn Thr Trp Pro Val 140 145 150

Ile Ser Ala Phe Ala Asn Asp Pro Asp Val Thr Arg Glu Ala Ala 155 160 165

Thr Ser Ser Val Leu Leu Pro Leu Asp Pro Gly Asp Arg Val Ser

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 Ile Leu Ser Ala Leu Gln Asp Leu Phe Ser Val Thr Trp Leu Asn
 Arg Ser Lys Val Glu Lys Gln Leu Gln Val Ile Ser Val Leu Gln
 Trp Val Leu Ser Phe Leu Val Leu Gly Val Ala Cys Ser Ala Ile
 Leu Met Tyr Ile Phe Cys Thr Asp Cys Trp Leu Ile Ala Val Leu
 Tyr Phe Thr Trp Leu Val Phe Asp Trp Asn Thr Pro Lys Lys Gly
                 110
 Gly Arg Arg Ser Gln Trp Val Arg Asn Trp Ala Val Trp Arg Tyr
                 125
 Phe Arg Asp Tyr Phe Pro Ile Gln Leu Val Lys Thr His Asn Leu
                 140
 Leu Thr Thr Arg Asn Tyr Ile Phe Gly Tyr His Pro His Gly Ile
                 155
 Met Gly Leu Gly Ala Phe Cys Asn Phe Ser Thr Glu Ala Thr Glu
                 170
 Val Ser Lys Lys Phe Pro Gly Ile Arg Pro Tyr Leu Ala Thr Leu
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 Ala Gly Asn Phe Arg Met Pro Val Leu Arg Glu Tyr Leu Met Ser
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 Gly Gly Ile Cys Pro Val Ser Arg Asp Thr Ile Asp Tyr Leu Leu
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215

245

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Ala Ala Glu Ser Leu Ser Ser Met Pro Gly Lys Asn Ala Val Thr

Leu Arg Asn Arg Lys Gly Phe Val Lys Leu Ala Leu Arg His Gly

270 265 260 Ala Asp Leu Val Pro Ile Tyr Ser Phe Gly Glu Asn Glu Val Tyr Lys Gln Val Ile Phe Glu Glu Gly Ser Trp Gly Arg Trp Val Gln 290 Lys Lys Phe Gln Lys Tyr Ile Gly Phe Ala Pro Cys Ile Phe His Gly Arg Gly Leu Phe Ser Ser Asp Thr Trp Gly Leu Val Pro Tyr 325 Ser Lys Pro Ile Thr Thr Val Val Gly Glu Pro Ile Thr Ile Pro Lys Leu Glu His Pro Thr Gln Gln Asp Ile Asp Leu Tyr His Thr 350 Met Tyr Met Glu Ala Leu Val Lys Leu Phe Asp Lys His Lys Thr 365 Lys Phe Gly Leu Pro Glu Thr Glu Val Leu Glu Val Asn 380 <210> 293 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 293 gctgacctgg ttcccatcta ctcc 24 <210> 294 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 294 cccacagaca cccatgacac ttcc 24 <210> 295 <211> 50 <212> DNA <213> Artificial

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<212> PRT

<213> Homo sapiens

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Val Gln Leu Cys Thr Leu Ala Leu Trp Pro Val Ser Lys Gln Leu
35 40 45

Tyr Arg Arg Leu Asn Cys Arg Leu Ala Tyr Ser Leu Trp Ser Gln
50 55 60

Leu Val Met Leu Leu Glu Trp Trp Ser Cys Thr Glu Cys Thr Leu  $\phantom{0}65\phantom{0}$  70  $\phantom{0}75\phantom{0}$ 

Phe Thr Asp Gln Ala Thr Val Glu Arg Phe Gly Lys Glu His Ala 80 85 90

Val Ile Ile Leu Asn His Asn Phe Glu Ile Asp Phe Leu Cys Gly 95 100 105

Trp Thr Met Cys Glu Arg Phe Gly Val Leu Gly Ser Ser Lys Val 110 115 120

Leu Ala Lys Lys Glu Leu Leu Tyr Val Pro Leu Ile Gly Trp Thr

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Phe Thr Thr Ala Val Lys Cys Leu Arg Gly Thr Val Ala Ala Val
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Tyr Asp Val Thr Leu Asn Phe Arg Gly Asn Lys Asn Pro Ser Leu
                 230
Leu Gly Ile Leu Tyr Gly Lys Lys Tyr Glu Ala Asp Met Cys Val
Arg Arg Phe Pro Leu Glu Asp Ile Pro Leu Asp Glu Lys Glu Ala
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Ala Gln Trp Leu His Lys Leu Tyr Gln Glu Lys Asp Ala Leu Gln
Glu Ile Tyr Asn Gln Lys Gly Met Phe Pro Gly Glu Gln Phe Lys
                 290
Pro Ala Arg Arg Pro Trp Thr Leu Leu Asn Phe Leu Ser Trp Ala
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                 305
Thr Ile Leu Leu Ser Pro Leu Phe Ser Phe Val Leu Gly Val Phe
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                                     325
Ala Ser Gly Ser Pro Leu Leu Ile Leu Thr Phe Leu Gly Phe Val
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His Leu Cys Val Cys Phe Ser Phe Ala Leu Ala Leu Gly His Phe 20 30

Leu Leu Ile Ser Leu Val Gly Lys Gly Leu Ser Leu Ser Cys Gly 35 40 45

Val Gly Gly Arg Gln Ala Gly Leu Arg Leu Ile Arg Pro Trp Val
50 55 60

Arg Arg Glu Gly Lys Ile Asn Phe Tyr Thr Asn Gly Asp Ser Trp
65 70 75

Gly Leu Arg Pro Ala Ser Ser Val Lys Phe Leu Gly Ser Ala Tyr 80 85 90

Thr Phe Phe Ser Leu Thr Trp His Thr Leu Leu Lys Ala Ser Gln 95 100 105

Gly Phe Ser Leu Phe Leu Gly Ser Lys Tyr Leu Glu Leu Gln Glu

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Cys Gly Val Leu Leu Ser Phe Leu

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<212> DNA

<213> Homo sapiens

<400> 303 ggctggactg gaactcctgg tcccaagtga tccacccgcc tcagcctccc 50 aaggtgctgt gattataggt gtaagccacc gtgtctggcc tctgaacaac 100 tttttcagca actaaaaaag ccacaggagt tgaactgcta ggattctgac 150 tatgctgtgg tggctagtgc tcctactcct acctacatta aaatctgttt 200 tttgttctct tgtaactagc ctttaccttc ctaacacaga ggatctgtca 250 ctgtggctct ggcccaaacc tgaccttcac tctggaacga gaacagaggt 300 ttctacccac accgtcccct cgaagccggg gacagcctca ccttgctggc 350 ctctcgctgg agcagtgccc tcaccaactg tctcacgtct ggaggcactg 400 actogggoag tgcaggtago tgagcotott ggtagotgog gotttcaagg 450 tgggccttgc cctggccgta gaagggattg acaagcccga agatttcata 500 ggcgatggct cccactgccc aggcatcagc cttgctgtag tcaatcactg 550 ccctggggcc aggacggcc gtggacacct gctcagaagc agtgggtgag 600 acatcacgct gcccgcccat ctaacctttt catgtcctgc acatcacctg 650 atccatgggc taatctgaac tctgtcccaa ggaacccaga gcttgagtga 700 gctgtggctc agacccagaa ggggtctgct tagaccacct ggtttatgtg 750 acaggacttg cattetectg gaacatgagg gaacgeegga ggaaagcaaa 800 gtggcaggga aggaacttgt gccaaattat gggtcagaaa agatggaggt 850 gttgggttat cacaaggcat cgagtctcct gcattcagtg gacatgtggg 900 ggaagggetg cegatggege atgacacact egggaeteae etetggggee 950 atcagacage egttteegee eegateeaeg taccagetge tgaagggeaa 1000 ctgcaggccg atgctctcat cagccaggca gcagccaaaa tctgcgatca 1050 ccagccaggg gcagccgtct gggaaggagc aagcaaagtg accatttctc 1100 ctccctcct tccctctgag aggccctcct atgtccctac taaagccacc 1150 agcaagacat agctgacagg ggctaatggc tcagtgttgg cccaggaggt 1200 cagcaaggcc tgagagctga tcagaagggc ctgctgtgcg aacacggaaa 1250 tgcctccagt aagcacaggc tgcaaaatcc ccaggcaaag gactgtgtgg 1300 ctcaatttaa atcatgttct agtaattgga gctgtcccca agaccaaagg 1350 agctagagct tggttcaaat gatctccaag ggcccttata ccccaggaga 1400 ctttgatttg aatttgaaac cccaaatcca aacctaagaa ccaggtgcat 1450 taagaatcag ttattgccgg gtgtggtgc ctgtaatgcc aacattttgg 1500 gaggccgagg cgggtagatc acctgaggtc aggagttcaa gaccagcctg 1550 gccaacatgg tgaaacccct gtctctacta aaaatacaaa aaaactagcc 1600 aggcatggtg gtgtgtgcct gtatcccagc tactcgggag gctgagacag 1650 gagaattact tgaacctggg aggtgaagga ggctgagaca ggagaatcac 1700 ttcagcctga gcaacacagc gagactctgt ctcagaaaaa ataaaaaag 1750 aattatggtt atttgtaa 1768

<210> 304

<211> 109

<212> PRT

<213> Homo sapiens

<400> 304

Met Leu Trp Trp Leu Val Leu Leu Leu Leu Pro Thr Leu Lys Ser 1 5 10 15

Val Phe Cys Ser Leu Val Thr Ser Leu Tyr Leu Pro Asn Thr Glu

Asp Leu Ser Leu Trp Leu Trp Pro Lys Pro Asp Leu His Ser Gly 35 40 45

Thr Arg Thr Glu Val Ser Thr His Thr Val Pro Ser Lys Pro Gly 50 55 60

Thr Ala Ser Pro Cys Trp Pro Leu Ala Gly Ala Val Pro Ser Pro 65 70 75

Thr Val Ser Arg Leu Glu Ala Leu Thr Arg Ala Val Gln Val Ala 80 85 90

Glu Pro Leu Gly Ser Cys Gly Phe Gln Gly Gly Pro Cys Pro Gly 95 100 105

Arg Arg Arg Asp

<210> 305

<211> 989

<212> DNA

<213> Homo sapiens

<400> 305

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<210> 306

<211> 262

<212> PRT

<213> Homo sapiens

<400> 306

Met Thr Gln Pro Val Pro Arg Leu Ser Val Pro Ala Ala Leu Ala 1 5 10 15

Leu Gly Ser Ala Ala Leu Gly Ala Ala Phe Ala Thr Gly Leu Phe 20 25 30

Leu Gly Arg Arg Cys Pro Pro Trp Arg Gly Arg Arg Glu Gln Cys
35 40 45

Leu Leu Pro Pro Glu Asp Ser Arg Leu Trp Gln Tyr Leu Leu Ser
50 55 60

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Arg Ser Met Arg Glu His Pro Ala Leu Arg Ser Leu Arg Leu Leu
Thr Leu Glu Gln Pro Gln Gly Asp Ser Met Met Thr Cys Glu Gln
Ala Gln Leu Leu Ala Asn Leu Ala Arg Leu Ile Gln Ala Lys Lys
Ala Leu Asp Leu Gly Thr Phe Thr Gly Tyr Ser Ala Leu Ala Leu
Ala Leu Ala Leu Pro Ala Asp Gly Arg Val Val Thr Cys Glu Val
Asp Ala Gln Pro Pro Glu Leu Gly Arg Pro Leu Trp Arg Gln Ala
Glu Ala Glu His Lys Ile Asp Leu Arg Leu Lys Pro Ala Leu Glu
                155
                                                         165
Thr Leu Asp Glu Leu Leu Ala Ala Gly Glu Ala Gly Thr Phe Asp
                170
Val Ala Val Val Asp Ala Asp Lys Glu Asn Cys Ser Ala Tyr Tyr
                                                         195
                185
Glu Arg Cys Leu Gln Leu Leu Arg Pro Gly Gly Ile Leu Ala Val
                200
Leu Arg Val Leu Trp Arg Gly Lys Val Leu Gln Pro Pro Lys Gly
                215
                                                         225
                                     220
Asp Val Ala Ala Glu Cys Val Arg Asn Leu Asn Glu Arg Ile Arg
                230
Arg Asp Val Arg Val Tyr Ile Ser Leu Leu Pro Leu Gly Asp Gly
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                245
                                     250
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Leu Thr Leu Ala Phe Lys Ile 260

<210> 307

<211> 2272

<212> DNA

<213> Homo sapiens

<400> 307

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getaagatga agggetacee teactggeet geeaggateg aegacatege 150
ggatggegee gtgaageeee caeceaacaa gtaceecate ttttetttg 200
geacacacga aacageette etgggaceea aggacetgtt eecetacgae 250

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aaggctggga tggagaagga gaaggccgag gagaagctgg ccggggagga 1800
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aaggtgtggc tcctctgaag acctgcacga cagcgtacgg gagggtcccg 2000
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gactcggagg ccctggacga ggagagctga gccggggca gccaggccca 2100
gcccccgccc gagctcaggc tgcccctctc cttccccggc tcgcaggaga 2150
gcagagcaga gaactgtggg gaacgctga ttccaacca acatgaaatg 2250
actataaacg gtttttaat ga 2272

<210> 308

<211> 671

<212> PRT

<213> Homo sapiens

<400> 308

Met Pro His Ala Phe Lys Pro Gly Asp Leu Val Phe Ala Lys Met
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Lys Gly Tyr Pro His Trp Pro Ala Arg Ile Asp Asp Ile Ala Asp 20 25 30

Gly Ala Val Lys Pro Pro Pro Asn Lys Tyr Pro Ile Phe Phe Phe 45

Gly Thr His Glu Thr Ala Phe Leu Gly Pro Lys Asp Leu Phe Pro 50 60

Tyr Asp Lys Cys Lys Asp Lys Tyr Gly Lys Pro Asn Lys Arg Lys 65 70 75

Gly Phe Asn Glu Gly Leu Trp Glu Ile Gln Asn Asn Pro His Ala 80 85 90

Ser Tyr Ser Ala Pro Pro Pro Val Ser Ser Ser Asp Ser Glu Ala 95 100 105

Pro Glu Ala Asn Pro Ala Asp Gly Ser Asp Ala Asp Glu Asp Asp

Glu Asp Arg Gly Val Met Ala Val Thr Ala Val Thr Ala Thr Ala 125 130 135

Ala Ser Asp Arg Met Glu Ser Asp Ser Asp Ser Asp Lys Ser Ser

	140		145	15	50
Asp Asn Ser Gly	Leu Lys Ar 155	g Lys Thr	Pro Ala Leu 160	Lys Met Se	er 55
Val Ser Lys Arg	Ala Arg Ly 170	s Ala Ser	Ser Asp Leu 175	Asp Gln Al	La 30
Ser Val Ser Pro	Ser Glu Gl 185	u Glu Asn	Ser Glu Ser 190	Ser Ser Gl	Lu 95
Ser Glu Lys Thr	Ser Asp Gl 200	n Asp Phe	Thr Pro Glu 205	Lys Lys Al	la 10
Ala Val Arg Ala	Pro Arg Ar 215	g Gly Pro	Leu Gly Gly 220	Arg Lys Ly 22	ys 25
Lys Lys Ala Pro	Ser Ala Se 230	er Asp Ser	Asp Ser Lys 235	Ala Asp Se	er 40
Asp Gly Ala Lys	Pro Glu Pr 245	co Val Ala	Met Ala Arg 250	Ser Ala Se	er 55
Ser Ser Ser Ser	Ser Ser Se 260	er Ser Ser	Asp Ser Asp 265	Val Ser Va 2	al 70
Lys Lys Pro Pro	Arg Gly Ar 275	ng Lys Pro	Ala Glu Lys 280	Pro Leu Pro 28	ro 85
Lys Pro Arg Gly	Arg Lys Pr 290	co Lys Pro	Glu Arg Pro 295	Pro Ser Se	er 00
Ser Ser Ser Asp	Ser Asp Se 305	er Asp Glu	Val Asp Arg 310	Ile Ser G	lu 15
Trp Lys Arg Arg	g Asp Glu Al 320	la Arg Arg	Arg Glu Leu 325	Glu Ala A	rg 30
Arg Arg Arg Glu	ı Gln Glu Gl 335	lu Glu Leu	Arg Arg Leu 340	Arg Glu G	1n 45
Glu Lys Glu Glu	ı Lys Glu Aı 350	rg Arg Arg	Glu Arg Ala 355	Asp Arg G 3	lу 60
Glu Ala Glu Arg	g Gly Ser G 365	ly Gly Ser	Ser Gly Asp 370	Glu Leu A 3	rg 75
Glu Asp Asp Glu	ı Pro Val Ly 380	ys Lys Arg	Gly Arg Lys 385	Gly Arg G 3	1y 90
Arg Gly Pro Pro	Ser Ser Se 395	er Asp Ser	Glu Pro Glu 400	Ala Glu L 4	eu 05
Glu Arg Glu Ala	a Lys Lys Se 410	er Ala Lys	Lys Pro Glr 415	Ser Ser S 4	er 20
Thr Glu Pro Ala	a Arg Lys Pr 425	ro Gly Gln	Lys Glu Lys 430	Arg Val A	rg 35

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Pro Glu Glu Lys Gln Gln Ala Lys Pro Val Lys Val Glu Arg Thr
Arg Lys Arg Ser Glu Gly Phe Ser Met Asp Arg Lys Val Glu Lys
                                                         465
Lys Lys Glu Pro Ser Val Glu Glu Lys Leu Gln Lys Leu His Ser
Glu Ile Lys Phe Ala Leu Lys Val Asp Ser Pro Asp Val Lys Arg
                485
Cys Leu Asn Ala Leu Glu Glu Leu Gly Thr Leu Gln Val Thr Ser
                500
Gln Ile Leu Gln Lys Asn Thr Asp Val Val Ala Thr Leu Lys Lys
                515
Ile Arg Arg Tyr Lys Ala Asn Lys Asp Val Met Glu Lys Ala Ala
                                     535
                530
Glu Val Tyr Thr Arg Leu Lys Ser Arg Val Leu Gly Pro Lys Ile
Glu Ala Val Gln Lys Val Asn Lys Ala Gly Met Glu Lys Glu Lys
Ala Glu Glu Lys Leu Ala Gly Glu Glu Leu Ala Gly Glu Glu Ala
                575
Pro Gln Glu Lys Ala Glu Asp Lys Pro Ser Thr Asp Leu Ser Ala
Pro Val Asn Gly Glu Ala Thr Ser Gln Lys Gly Glu Ser Ala Glu
Asp Lys Glu His Glu Glu Gly Arg Asp Ser Glu Glu Gly Pro Arg
                 620
Cys Gly Ser Ser Glu Asp Leu His Asp Ser Val Arg Glu Gly Pro
                                     640
Asp Leu Asp Arg Pro Gly Ser Asp Arg Gln Glu Arg Glu Arg Ala
                                     655
Arg Gly Asp Ser Glu Ala Leu Asp Glu Glu Ser
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<sup>&</sup>lt;210> 309

<sup>&</sup>lt;211> 3871

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 309

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cagcctcaat aattatatta aattaacacc atttgaaaga gaacattgtt 100

ttcatcatga atgctaataa agatgaaaga cttaaagcca gaagccaaga 150 ttttcacctt tttcctgctt tgatgatgct aagcatgacc atgttgtttc 200 ttccagtcac tggcactttg aagcaaaata ttccaagact caagctaacc 250 tacaaagact tgctgctttc aaatagctgt attccctttt tgggttcatc 300 agaaggactg gattttcaaa ctcttctctt agatgaggaa agaggcaggc 350 tgctcttggg agccaaagac cacatctttc tactcagtct ggttgactta 400 aacaaaaatt ttaagaagat ttattggcct gctgcaaagg aacgggtgga 450 attatgtaaa ttagctggga aagatgccaa tacagaatgt gcaaatttca 500 tcagagtact tcagccctat aacaaaactc acatatatgt gtgtggaact 550 ggagcatttc atccaatatg tgggtatatt gatcttggag tctacaagga 600 ggatattata ttcaaactag acacacataa tttggagtct ggcagactga 650 aatgtccttt cgatcctcag cagccttttg cttcagtaat gacagatgag 700 tacctctact ctggaacagc ttctgatttc cttggcaaag atactgcatt 750 cactcgatcc cttgggccta ctcatgacca ccactacatc agaactgaca 800 tttcagagca ctactggctc aatggagcaa aatttattgg aactttcttc 850 ataccagaca cctacaatcc agatgatgat aaaatatatt tcttctttcg 900 tgaatcatct caagaaggca gtacctccga taaaaccatc ctttctcgag 950 ttggaagagt ttgtaagaat gatgtaggag gacaacgcag cctgataaac 1000 aagtggacga cttttcttaa ggccagactg atttgctcaa ttcctggaag 1050 tgatggggca gatacttact ttgatgagct tcaagatatt tatttactcc 1100 ccacaagaga tgaaagaaat cctgtagtat atggagtctt tactacaacc 1150 agctccatct tcaaaggctc tgctgtttgt gtgtatagca tggctgacat 1200 cagagcagtt tttaatggtc catatgctca taaggaaagt gcagaccatc 1250 gttgggtgca gtatgatggg agaatteett atecaeggee tggtacatgt 1300 ccaagcaaaa cctatgaccc actgattaag tccacccgag attttccaga 1350 tgatgtcatc agtttcataa agcggcactc tgtgatgtat aagtccgtat 1400 acccagttgc aggaggacca acgttcaaga gaatcaatgt ggattacaga 1450 ctgacacaga tagtggtgga tcatgtcatt gcagaagatg gccagtacga 1500 tgtaatgttt cttggaacag acattggaac tgtcctcaaa gttgtcagca 1550 tttcaaagga aaagtggaat atggaagagg tagtgctgga ggagttgcag 1600 atattcaagc actcatcaat catcttgaac atggaattgt ctctgaagca 1650 gcaacaattg tacattggtt cccgagatgg attagttcag ctctccttgc 1700 acagatgcga cacttatggg aaagcttgcg cagactgttg tcttgccaga 1750 gacccctact gtgcctggga tggaaatgca tgctctcgat atgctcctac 1800 ttctaaaagg agagctagac gccaagatgt aaaatatggc gacccaatca 1850 cccagtgctg ggacatcgaa gacagcatta gtcatgaaac tgctgatgaa 1900 aaggtgattt ttggcattga atttaactca acctttctgg aatgtatacc 1950 taaatcccaa caagcaacta ttaaatggta tatccagagg tcaggggatg 2000 agcatcgaga ggagttgaag cccgatgaaa gaatcatcaa aacggaatat 2050 gggctactga ttcgaagttt gcagaagaag gattctggga tgtattactg 2100 caaagcccag gagcacactt tcatccacac catagtgaag ctgactttga 2150 atgtcattga gaatgaacag atggaaaata cccagagggc agagcatgag 2200 gaggggcagg tcaaggatct attggctgag tcacggttga gatacaaaga 2250 ctacatccaa atccttagca gcccaaactt cagcctcgac cagtactgcg 2300 aacagatgtg gcacagggag aagcggagac agagaaacaa ggggggccca 2350 aagtggaagc acatgcagga aatgaagaag aaacgaaatc gaagacatca 2400 cagagacctg gatgagctcc ctagagctgt agccacgtag ttttctactt 2450 aatttaaaga aaagaattcc ttacctataa aaacattgcc ttctgttttg 2500 tatatccctt atagtaattc ataaatgctt cccatggagt tttgctaagg 2550 cacaagacaa taatctgaat aagacaatat gtgatgaata taagaaaggg 2600 caaaaaattc atttgaacca gttttccaag aacaaatctt gcacaagcaa 2650 agtataagaa ttatcctaaa aatagggggt ttacagttgt aaatgtttta 2700 tgttttgagt tttggaattt attgtcatgt aaatagttga gctaagcaag 2750 ccccgaattt gatagtgtat aaggtgcttt attccctcga atgtccatta 2800 agcatggaat ttaccatgca gttgtgctat gttcttatga acagatatat 2850 cattcctatt gagaaccagc taccttgtgg tagggaataa gaggtcagac 2900 acaaattaag acaactccca ttatcaacag gaactttctc agtgagccat 2950 tcactcctgg agaatggtat aggaatttgg agaggtgcat tatttctttc 3000 tggccactgg ggttaaattt agtgtactac aacattgatt tactgaaggg 3050 cactaatgtt tcccccagga tttctattga ctagtcagga gtaacaggtt 3100 cacagagaga agttggtgct tagttatgtg ttttttagag tatatactaa 3150 gctctacagg gacagaatgc ttaataaata ctttaataag atatgggaaa 3200 atattttaat aaaacaagga aaacataatg atgtataatg catcctgatg 3250 ggaaggcatg cagatgggat ttgttagaag acagaaggaa agacagccat 3300 aaattctggc tttggggaaa actcatatcc ccatgaaaag gaagaacaat 3350 cacaaataaa gtgagagtaa tgtaatggag ctcttttcac tagggtataa 3400 gtagctgcca atttgtaatt catctgttaa aaaaaatcta gattataaca 3450 aactgctagc aaaatctgag gaaacataaa ttcttctgaa gaatcatagg 3500 aagagtagac attttattta taaccaatga tatttcagta tatattttct 3550 ctcttttaaa aaatatttat catactctgt atattatttc tttttactgc 3600 ctttattctc tcctgtatat tggattttgt gattatattt gagtgaatag 3650 gagaaaacaa tatataacac acagagaatt aagaaaatga catttctggg 3700 gagtggggat atatatttgt tgaataacag aacgagtgta aaattttaac 3750 aacggaaagg gttaaattaa ctctttgaca tcttcactca accttttctc 3800 attgctgagt taatctgttg taattgtagt attgtttttg taatttaaca 3850 ataaataagc ctgctacatg t 3871

<210> 310

<211> 777

<212> PRT

<213> Homo sapiens

<400> 310

Met Asn Ala Asn Lys Asp Glu Arg Leu Lys Ala Arg Ser Gln Asp 1 5 10

Phe His Leu Phe Pro Ala Leu Met Met Leu Ser Met Thr Met Leu 20 25 30

Phe Leu Pro Val Thr Gly Thr Leu Lys Gln Asn Ile Pro Arg Leu
35 40 45

Lys Leu Thr Tyr Lys Asp Leu Leu Leu Ser Asn Ser Cys Ile Pro 50 55 60

Phe Leu Gly Ser Ser Glu Gly Leu Asp Phe Gln Thr Leu Leu Leu 65 70 75

Asp Glu Glu Arg Gly Arg Leu Leu Gly Ala Lys Asp His Ile

90 85 80 Phe Leu Leu Ser Leu Val Asp Leu Asn Lys Asn Phe Lys Lys Ile Tyr Trp Pro Ala Ala Lys Glu Arg Val Glu Leu Cys Lys Leu Ala Gly Lys Asp Ala Asn Thr Glu Cys Ala Asn Phe Ile Arg Val Leu 130 125 Gln Pro Tyr Asn Lys Thr His Ile Tyr Val Cys Gly Thr Gly Ala Phe His Pro Ile Cys Gly Tyr Ile Asp Leu Gly Val Tyr Lys Glu Asp Ile Ile Phe Lys Leu Asp Thr His Asn Leu Glu Ser Gly Arg 170 Leu Lys Cys Pro Phe Asp Pro Gln Gln Pro Phe Ala Ser Val Met 185 Thr Asp Glu Tyr Leu Tyr Ser Gly Thr Ala Ser Asp Phe Leu Gly 200 Lys Asp Thr Ala Phe Thr Arg Ser Leu Gly Pro Thr His Asp His 215 His Tyr Ile Arg Thr Asp Ile Ser Glu His Tyr Trp Leu Asn Gly 230 Ala Lys Phe Ile Gly Thr Phe Phe Ile Pro Asp Thr Tyr Asn Pro Asp Asp Asp Lys Ile Tyr Phe Phe Phe Arg Glu Ser Ser Gln Glu 260 Gly Ser Thr Ser Asp Lys Thr Ile Leu Ser Arg Val Gly Arg Val Cys Lys Asn Asp Val Gly Gly Gln Arg Ser Leu Ile Asn Lys Trp Thr Thr Phe Leu Lys Ala Arg Leu Ile Cys Ser Ile Pro Gly Ser Asp Gly Ala Asp Thr Tyr Phe Asp Glu Leu Gln Asp Ile Tyr Leu 320 Leu Pro Thr Arg Asp Glu Arg Asn Pro Val Val Tyr Gly Val Phe 335 Thr Thr Thr Ser Ser Ile Phe Lys Gly Ser Ala Val Cys Val Tyr 355 Ser Met Ala Asp Ile Arg Ala Val Phe Asn Gly Pro Tyr Ala His

370

365

Lys	Glu	Ser	Ala	Asp 380	His	Arg	Trp	Val	Gln 385	Tyr	Asp	Gly	Arg	Ile 390
Pro	Tyr	Pro	Arg	Pro 395	Gly	Thr	Cys	Pro	Ser 400	Lys	Thr	Tyr	Asp	Pro 405
Leu	Ile	Lys	Ser	Thr 410	Arg	Asp	Phe	Pro	Asp 415	Asp	Val	Ile	Ser	Phe 420
Ile	Lys	Arg	His	Ser 425	Val	Met	Tyr	Lys	Ser 430	Val	Tyr	Pro	Val	Ala 435
Gly	Gly	Pro	Thr	Phe 440	Lys	Arg	Ile	Asn	Val 445	Asp	Tyr	Arg	Leu	Thr 450
Gln	Ile	Val	Val	Asp 455	His	Val	Ile	Ala	Glu 460	Asp	Gly	Gln	Tyr	Asp 465
Val	Met	Phe	Leu	Gly 470	Thr	Asp	Ile	Gly	Thr 475	Val	Leu	Lys	Val	Val 480
Ser	Ile	Ser	Lys	Glu 485	Lys	Trp	Asn	Met	Glu 490	Glu	Val	Val	Leu	Glu 495
Glu	Leu	Gln	Ile	Phe 500	Lys	His	Ser	Ser	Ile 505	Ile	Leu	Asn	Met	Glu 510
Leu	Ser	Leu	Lys	Gln 515	Gln	Gln	Leu	Tyr	Ile 520	Gly	Ser	Arg	Asp	Gly 525
Leu	Val	Gln	Leu	Ser 530	Leu	His	Arg	Суз	Asp 535	Thr	Tyr	Gly	Lys	Ala 540
Cys	Ala	Asp	Cys	Cys 545	Leu	Ala	Arg	Asp	Pro 550	Tyr	Cys	Ala	Trp	Asp 555
Gly	Asn	Ala	Cys	Ser 560	Arg	Tyr	Ala	Pro	Thr 565	Ser	Lys	: Arg	Arg	Ala 570
Arg	Arg	Gln	Asp	Val 575		Tyr	Gly	Asp	Pro 580	Ile	Thr	Gln	Cys	Trp 585
Asp	Ile	e Glu	ı Asp	Ser 590		Ser	His	Glu	Thr 595	Ala	Asp	Glu	Lys	Val 600
Ile	Phe	e Gly	/ Ile	Glu 605		Asn	Ser	Thr	Phe 610	e Leu	ı Glu	ı Cys	: Ile	Pro 615
Lys	s Ser	Glr	ı Glr	1 Ala 620		: Ile	e Lys	Trp	625	: Ile	e Glr	n Arg	g Ser	Gly 630
Asp	Glu	ı His	s Arg	g Glu 635		ı Lev	ı Lys	Pro	Asp 640	o Glu )	ı Arç	g Ile	e Ile	Lys 645
Thr	g Glu	1 Ту	r Gly	y Leu 650	ı Lev	ı Ile	e Arg	g Ser	Let 655	ı Glr	ı Ly	s Lys	s Asp	Ser 660
Gly	, Met	ту:	r Tyi	r Cys	s Lys	s Ala	a Glr	ı Glu	ı His	s Thi	r Phe	e Ile	e His	Thr

				665					670					675
Ile	Val	Lys	Leu	Thr 680	Leu	Asn	Val	Ile	Glu 685	Asn	Glu	Gln	Met	Glu 690
Asn	Thr	Gln	Arg	Ala 695	Glu	His	Glu	Glu	Gly 700	Gln	Val	Lys	Asp	Leu 705
Leu	Ala	Glu	Ser	Arg 710	Leu	Arg	Tyr	Lys	Asp 715	Tyr	Ile	Gln	Ile	Leu 720
Ser	Ser	Pro	Asn	Phe 725	Ser	Leu	Asp	Gln	Tyr 730	Cys	Glu	Gln	Met	Trp 735
His	Arg	Glu	Lys	Arg 740	Arg	Gln	Arg	Asn	Lys 745	Gly	Gly	Pro	Lys	Trp 750
Lys	His	Met	Gln	Glu 755	Met	Lys	Lys	Lys	Arg 760	Asn	Arg	Arg	His	His 765
Arg	Asp	Leu	Asp	Glu 770	Leu	Pro	Arg	Ala	Val 775	Ala	Thr			
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<210> 314

<211> 3934

<212> DNA

<213> Homo sapiens

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<sup>&</sup>lt;210> 315

<sup>&</sup>lt;211> 370

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

Val Phe Pro Pro Thr Pro Val Leu Cys Leu Pro Asn Gln Val Leu Gln Arg Leu Glu Gln Arg Arg Gln Gln Ala Ser Glu Arg Glu Ala Pro Ser Ile Glu Gln Arg Leu Gln Glu Val Arg Glu Ser Ile Arg Arg Ala Gln Val Ser Gln Val Lys Gly Ala Ala Arg Leu Ala Leu Leu Gln Gly Ala Gly Leu Asp Val Glu Arg Trp Leu Lys Pro Ala Met Thr Gln Ala Gln Asp Glu Val Glu Gln Glu Arg Arg Leu Ser Glu Ala Arg Leu Ser Gln Arg Asp Leu Ser Pro Thr Ala Glu Asp 120 110 115 Ala Glu Leu Ser Asp Phe Glu Glu Cys Glu Glu Thr Gly Glu Leu Phe Glu Glu Pro Ala Pro Gln Ala Leu Ala Thr Arg Ala Leu Pro 150 145 Cys Pro Ala His Val Val Phe Arg Tyr Gln Ala Gly Arg Glu Asp Glu Leu Thr Ile Thr Glu Gly Glu Trp Leu Glu Val Ile Glu Glu Gly Asp Ala Asp Glu Trp Val Lys Ala Arg Asn Gln His Gly Glu Val Gly Phe Val Pro Glu Arg Tyr Leu Asn Phe Pro Asp Leu Ser Leu Pro Glu Ser Ser Gln Asp Ser Asp Asn Pro Cys Gly Ala Glu Pro Thr Ala Phe Leu Ala Gln Ala Leu Tyr Ser Tyr Thr Gly Gln Ser Ala Glu Glu Leu Ser Phe Pro Glu Gly Ala Leu Ile Arg Leu Leu Pro Arg Ala Gln Asp Gly Val Asp Asp Gly Phe Trp Arg Gly Glu Phe Gly Gly Arg Val Gly Val Phe Pro Ser Leu Leu Val Glu Glu Leu Leu Gly Pro Pro Gly Pro Pro Glu Leu Ser Asp Pro Glu Gln Met Leu Pro Ser Pro Ser Pro Pro Ser Phe Ser Pro Pro Ala

	305		310		315
Pro Thr Ser	Val Leu 320	Pro Pro	Ala Pro 325	Val Leu	Pro Gly 330
Asp Lys Ala	Leu Asp 335	Gly Phe	Leu Asp 340	Met Met	Ala Pro 345
Arg Leu Arg	Pro Met 350	Pro Pro	Pro Pro 355	Pro Ala	Lys Ala 360
Pro Asp Pro	Gly His 365	Pro Leu	Thr 370		

<210> 316

<211> 4407

<212> DNA

<213> Homo sapiens

<400> 316

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<210> 317

<211> 837

<212> PRT

<213> Homo sapiens

<400> 317

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Trp Leu Trp Gly Ala Gln Pro Cys Leu Leu Leu Pro Ile Val Pro 20 25 30

Leu Ser Trp Leu Val Trp Leu Leu Leu Leu Leu Leu Ala Ser Leu 35 40 45

Leu Pro Ser Ala Arg Leu Ala Ser Pro Leu Pro Arg Glu Glu 50 55 60

Ile Val Phe Pro Glu Lys Leu Asn Gly Ser Val Leu Pro Gly Ser 65 70 75

Thr Leu Leu Glu Leu Glu Gln Asp Ser Gly Val Gln Val Glu 95 100 105

Gly Leu Thr Val Gln Tyr Leu Gly Gln Ala Pro Glu Leu Leu Gly 110 115

Gly Ala Glu Pro Gly Thr Tyr Leu Thr Gly Thr Ile Asn Gly Asp 125 130 135

Pro Glu Ser Val Ala Ser Leu His Trp Asp Gly Gly Ala Leu Leu

				140					145					150
Gly V	/al	Leu	Gln	Tyr 155	Arg	Gly	Ala	Glu	Leu 160	His	Leu	Gln	Pro	Leu 165
Glu (	Gly	Gly	Thr	Pro 170	Asn	Ser	Ala	Gly	Gly 175	Pro	Gly	Ala	His	Ile 180
Leu A	Arg	Arg	Lys	Ser 185	Pro	Ala	Ser	Gly	Gln 190	Gly	Pro	Met	Cys	Asn 195
Val 1	Lys	Ala	Pro	Leu 200	Gly	Ser	Pro	Ser	Pro 205	Arg	Pro	Arg	Arg	Ala 210
Lys A	Arg	Phe	Ala	Ser 215	Leu	Ser	Arg	Phe	Val 220	Glu	Thr	Leu	Val	Val 225
Ala	Asp	Asp	Lys	Met 230	Ala	Ala	Phe	His	Gly 235	Ala	Gly	Leu	Lys	Arg 240
Tyr :	Leu	Leu	Thr	Val 245	Met	Ala	Ala	Ala	Ala 250	Lys	Ala	Phe	Lys	His 255
Pro	Ser	Ile	Arg	Asn 260	Pro	Val	Ser	Leu	Val 265	Val	Thr	Arg	Leu	Val 270
Ile	Leu	Gly	Ser	Gly 275	Glu	Glu	Gly	Pro	Gln 280	Val	Gly	Pro	Ser	Ala 285
Ala	Gln	Thr	Leu	Arg 290	Ser	Phe	Cys	Ala	Trp 295	Gln	Arg	Gly	Leu	Asn 300
Thr	Pro	Glu	Asp	Ser 305	Gly	Pro	Asp	His	Phe 310	Asp	Thr	Ala	Ile	Leu 315
Phe	Thr	Arg	Gln	Asp 320	Leu	Cys	Gly	Val	Ser 325	Thr	Cys	Asp	Thr	Leu 330
Gly	Met	Ala	Asp	Val 335	Gly	Thr	Val	Cys	Asp 340	Pro	Ala	Arg	Ser	Cys 345
Ala	Ile	Val	Glu	Asp 350	Asp	Gly	Leu	Gln	Ser 355	Ala	Phe	Thr	Ala	Ala 360
His	Glu	. Leu	Gly	His 365	Val	Phe	Asn	Met	Leu 370		Asp	Asn	Ser	Lys 375
Pro	Cys	: Ile	Ser	Leu 380		Gly	Pro	Leu	Ser 385		Ser	Arg	His	Val 390
Met	Ala	Pro	val	Met 395		His	. Val	Asp	Pro 400		Glu	Pro	Trp	Ser 405
Pro	Cys	s Ser	: Ala	Arg 410		Ile	. Thr	Asp	Phe 415	e Leu	Asp	Asn	Gly	Tyr 420
Gly	His	суз	Leu	1 Leu 425		Lys	Pro	Glu	Ala 430		Lev	ı His	Leu	Pro 435

Val :	Thr	Phe	Pro	Gly 440	Lys	Asp	Tyr	Asp	Ala 445	Asp	Arg	Gln	Суз	Gln 450
Leu :	Thr	Phe	Gly	Pro 455	Asp	Ser	Arg	His	Cys 460	Pro	Gln	Leu	Pro	Pro 465
Pro (	Cys	Ala	Ala	Leu 470	Trp	Cys	Ser	Gly	His 475	Leu	Asn	Gly	His	Ala 480
Met	Cys	Gln	Thr	Lys 485	His	Ser	Pro	Trp	Ala 490	Asp	Gly	Thr	Pro	Cys 495
Gly :	Pro	Ala	Gln	Ala 500	Cys	Met	Gly	Gly	Arg 505	Cys	Leu	His	Met	Asp 510
Gln :	Leu	Gln	Asp	Phe 515	Asn	Ile	Pro	Gln	Ala 520	Gly	Gly	Trp	Gly	Pro 525
Trp	Gly	Pro	Trp	Gly 530	Asp	Cys	Ser	Arg	Thr 535	Cys	Gly	Gly	Gly	Val 540
Gln	Phe	Ser	Ser	Arg 545	Asp	Cys	Thr	Arg	Pro 550	Val	Pro	Arg	Asn	Gly 555
Gly	Lys	Tyr	Cys	Glu 560	Gly	Arg	Arg	Thr	Arg 565	Phe	Arg	Ser	Суз	Asn 570
Thr	Glu	Asp	Cys	Pro 575	Thr	Gly	Ser	Ala	Leu 580	Thr	Phe	Arg	Glu	Glu 585
Gln	Суѕ	Ala	Ala	Tyr 590	Asn	His	Arg	Thr	Asp 595	Leu	Phe	Lys	Ser	Phe 600
Pro	Gly	Pro	Met	Asp 605	Trp	Val	Pro	Arg	Tyr 610	Thr	Gly	Val	Ala	Pro 615
Gln	Asp	Gln	Cys	Lys 620	Leu	Thr	Cys	Gln	Ala 625	Arg	Ala	Leu	Gly	Tyr 630
Tyr	Tyr	Val	Leu	Glu 635		Arg	Val	Val	Asp 640	Gly	Thr	Pro	Cys	Ser 645
Pro	Asp	Ser	Ser	Ser 650	Val	Cys	Val	Gln	Gly 655	Arg	Cys	Ile	His	Ala 660
Gly	Cys	Asp	Arg	Ile 665		Gly	Ser	Lys	Lys 670	Lys	Phe	Asp	Lys	Cys 675
Met	Val	Cys	Gly	Gly 680		Gly	Ser	Gly	Cys 685	Ser	Lys	Gln	Ser	Gly 690
Ser	Phe	Arg	Lys	Phe 695		Tyr	Gly	Tyr	700	Asn	. Val	Val	Thr	Ile 705
Pro	Ala	Gly	Ala	Thr 710		Ile	. Leu	. Val	Arg 715	Gln	Gln	Gly	Asn	Pro 720
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<222> 1-43

<223> Synthetic construct.

735 730 725 Tyr Ala Leu Asn Gly Glu Tyr Thr Leu Met Pro Ser Pro Thr Asp 745 Val Val Leu Pro Gly Ala Val Ser Leu Arg Tyr Ser Gly Ala Thr Ala Ala Ser Glu Thr Leu Ser Gly His Gly Pro Leu Ala Gln Pro Leu Thr Leu Gln Val Leu Val Ala Gly Asn Pro Gln Asp Thr Arg 785 Leu Arg Tyr Ser Phe Phe Val Pro Arg Pro Thr Pro Ser Thr Pro 800 Arg Pro Thr Pro Gln Asp Trp Leu His Arg Arg Ala Gln Ile Leu 820 815 Glu Ile Leu Arg Arg Arg Pro Trp Ala Gly Arg Lys 830 <210> 318 <211> 23 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-23 <223> Synthetic construct. <400> 318 ccctgaagct gccagatggc tcc 23 <210> 319 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 319 ctgtgctctt cggtgcagcc agtc 24 <210> 320 <211> 43 <212> DNA <213> Artificial <220> <221> Artificial Sequence

<400> 320 ccacagatgt ggtactgcct ggggcagtca gcttgcgcta cag 43

<210> 321 <211> 1197

<212> DNA

<213> Homo sapiens

<400> 321 cagcagtggt ctctcagtcc tctcaaagca aggaaagagt actgtgtgct 50 gagagaccat ggcaaagaat cctccagaga attgtgaaga ctgtcacatt 100 ctaaatgcag aagcttttaa atccaagaaa atatgtaaat cacttaagat 150 ttgtggactg gtgtttggta tcctggccct aactctaatt gtcctgtttt 200 gggggagcaa gcacttctgg ccggaggtac ccaaaaaagc ctatgacatg 250 gagcacactt tctacagcaa tggagagaag aagaagattt acatggaaat 300 tgatcctgtg accagaactg aaatattcag aagcggaaat ggcactgatg 350 aaacattgga agtgcacgac tttaaaaacg gatacactgg catctacttc 400 gtgggtcttc aaaaatgttt tatcaaaact cagattaaag tgattcctga 450 attttctgaa ccagaagagg aaatagatga gaatgaagaa attaccacaa 500 ctttctttga acagtcagtg atttgggtcc cagcagaaaa gcctattgaa 550 aaccgagatt ttcttaaaaa ttccaaaatt ctggagattt gtgataacgt 600 gaccatgtat tggatcaatc ccactctaat atcagtttct gagttacaag 650 actttgagga ggagggagaa gatcttcact ttcctgccaa cgaaaaaaaa 700 gggattgaac aaaatgaaca gtgggtggtc cctcaagtga aagtagagaa 750 gacccgtcac gccagacaag caagtgagga agaacttcca ataaatgact 800 atactgaaaa tggaatagaa tttgatccca tgctggatga gagaggttat 850 tgttgtattt actgccgtcg aggcaaccgc tattgccgcc gcgtctgtga 900 acctttacta ggctactacc catatccata ctgctaccaa ggaggacgag 950 tcatctgtcg tgtcatcatg ccttgtaact ggtgggtggc ccgcatgctg 1000 gggagggtct aataggaggt ttgagctcaa atgcttaaac tgctggcaac 1050 atataataaa tgcatgctat tcaatgaatt tctgcctatg aggcatctgg 1100 cccctggtag ccagctctcc agaattactt gtaggtaatt cctctcttca 1150 <210> 322

<211> 317

<212> PRT

<213> Homo sapiens

<400> 322

Met Ala Lys Asn Pro Pro Glu Asn Cys Glu Asp Cys His Ile Leu
1 5 10 15

Asn Ala Glu Ala Phe Lys Ser Lys Lys Ile Cys Lys Ser Leu Lys 20 25 30

Ile Cys Gly Leu Val Phe Gly Ile Leu Ala Leu Thr Leu Ile Val 35 40 45

Leu Phe Trp Gly Ser Lys His Phe Trp Pro Glu Val Pro Lys Lys
50 55 60

Ala Tyr Asp Met Glu His Thr Phe Tyr Ser Asn Gly Glu Lys Lys 65 70 75

Lys Ile Tyr Met Glu Ile Asp Pro Val Thr Arg Thr Glu Ile Phe 80 85 90

Arg Ser Gly Asn Gly Thr Asp Glu Thr Leu Glu Val His Asp Phe 95 100 105

Lys Asn Gly Tyr Thr Gly Ile Tyr Phe Val Gly Leu Gln Lys Cys 110 115 120

Phe Ile Lys Thr Gln Ile Lys Val Ile Pro Glu Phe Ser Glu Pro 125 130 135

Glu Glu Glu Ile Asp Glu Asn Glu Glu Ile Thr Thr Thr Phe Phe 140 145 150

Glu Gln Ser Val Ile Trp Val Pro Ala Glu Lys Pro Ile Glu Asn 155 160 165

Arg Asp Phe Leu Lys Asn Ser Lys Ile Leu Glu Ile Cys Asp Asn 170 175 180

Val Thr Met Tyr Trp Ile Asn Pro Thr Leu Ile Ser Val Ser Glu 185 190 195

Leu Gln Asp Phe Glu Glu Glu Gly Glu Asp Leu His Phe Pro Ala 200 205 210

Asn Glu Lys Lys Gly Ile Glu Gln Asn Glu Gln Trp Val Val Pro 215 220 225

Gln Val Lys Val Glu Lys Thr Arg His Ala Arg Gln Ala Ser Glu 230 235 240

Glu Glu Leu Pro Ile Asn Asp Tyr Thr Glu Asn Gly Ile Glu Phe 245 250 255

Asp Pro Met Leu Asp Glu Arg Gly Tyr Cys Cys Ile Tyr Cys Arg 260 265 270

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Arg Gly Asn Arg Tyr Cys Arg Arg Val Cys Glu Pro Leu Leu Gly 285

Tyr Tyr Pro Tyr Pro Tyr Cys Tyr Gln Gly Gly Arg Val Ile Cys 300

Arg Val Ile Met Pro Cys Asn Trp Trp Val Ala Arg Met Leu Gly 315
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Arg Val

<210> 323 <211> 1174

<212> DNA

<213> Homo sapiens

<400> 323 gcggaactgg ctccggctgg cacctgagga gcggcgtgac cccgagggcc 50 cagggagetg eccggetgge etaggeagge ageegeacea tggeeageae 100 ggccgtgcag cttctgggct tcctgctcag cttcctgggc atggtgggca 150 cgttgatcac caccatcctg ccgcactggc ggaggacagc gcacgtgggc 200 accaacatcc tcacggccgt gtcctacctg aaagggctct ggatggagtg 250 tgtgtggcac agcacaggca tctaccagtg ccagatctac cgatccctgc 300 tggcgctgcc ccaagacctc caggctgccc gcgccctcat ggtcatctcc 350 tgcctgctct cgggcatagc ctgcgcctgc gccgtcatcg ggatgaagtg 400 cacgcgctgc gccaagggca cacccgccaa gaccaccttt gccatcctcg 450 geggeaccet etteateetg geeggeetee tgtgeatggt ggeegtetee 500 tggaccacca acgacgtggt gcagaacttc tacaacccgc tgctgcccag 550 cggcatgaag tttgagattg gccaggccct gtacctgggc ttcatctcct 600 cgtccctctc gctcattggt ggcaccctgc tttgcctgtc ctgccaggac 650 gaggcaccct acaggcccta ccaggccccg cccagggcca ccacgaccac 700 tgcaaacacc gcacctgcct accagccacc agctgcctac aaagacaatc 750 gggcccctc agtgacctcg gccacgcaca gcgggtacag gctgaacgac 800 tacgtgtgag tccccacagc ctgcttctcc cctgggctgc tgtgggctgg 850 gtccccggcg ggactgtcaa tggaggcagg ggttccagca caaagtttac 900 ttctgggcaa tttttgtatc caaggaaata atgtgaatgc gaggaaatgt 950 ctttagagca cagggacaga gggggaaata agaggaggag aaagctctct 1000 ataccaaaga ctgaaaaaaa aaatcctgtc tgtttttgta tttattatat 1050 atatttatgt gggtgatttg ataacaagtt taatataaag tgacttggga 1100 gtttggtcag tggggttggt ttgtgatcca ggaataaacc ttgcggatgt 1150 ggctgtttat gaaaaaaaaa aaaa 1174

<210> 324

<211> 239

<212> PRT

<213> Homo sapiens

<400> 324

Met Ala Ser Thr Ala Val Gln Leu Leu Gly Phe Leu Leu Ser Phe 1 5 10 15

Leu Gly Met Val Gly Thr Leu Ile Thr Thr Ile Leu Pro His Trp 20 25 30

Arg Arg Thr Ala His Val Gly Thr Asn Ile Leu Thr Ala Val Ser 35 40 45

Tyr Leu Lys Gly Leu Trp Met Glu Cys Val Trp His Ser Thr Gly 50 55 60

Ile Tyr Gln Cys Gln Ile Tyr Arg Ser Leu Leu Ala Leu Pro Gln 65 70 75

Asp Leu Gln Ala Ala Arg Ala Leu Met Val Ile Ser Cys Leu Leu 80 85 90

Ser Gly Ile Ala Cys Ala Cys Ala Val Ile Gly Met Lys Cys Thr  $95 \hspace{1.5cm} 100 \hspace{1.5cm} 105$ 

Arg Cys Ala Lys Gly Thr Pro Ala Lys Thr Thr Phe Ala Ile Leu 110 115 120

Gly Gly Thr Leu Phe Ile Leu Ala Gly Leu Leu Cys Met Val Ala 125 130 135

Val Ser Trp Thr Thr Asn Asp Val Val Gln Asn Phe Tyr Asn Pro 140 145 150

Leu Leu Pro Ser Gly Met Lys Phe Glu Ile Gly Gln Ala Leu Tyr 155 160 165

Leu Gly Phe Ile Ser Ser Ser Leu Ser Leu Ile Gly Gly Thr Leu 170 175 180

Leu Cys Leu Ser Cys Gln Asp Glu Ala Pro Tyr Arg Pro Tyr Gln
185 190 195

Ala Pro Pro Arg Ala Thr Thr Thr Thr Ala Asn Thr Ala Pro Ala 200 205 210

Tyr Gln Pro Pro Ala Ala Tyr Lys Asp Asn Arg Ala Pro Ser Val 215 220 225 Thr Ser Ala Thr His Ser Gly Tyr Arg Leu Asn Asp Tyr Val

<210> 325

<211> 2121

<212> DNA

<213> Homo sapiens

<400> 325

gageteeect caggagegeg ttagetteac acetteggea geaggaggge 50 ggcagcttct cgcaggcggc agggcgggcg gccaggatca tgtccaccac 100 cacatgccaa gtggtggcgt tcctcctgtc catcctgggg ctggccggct 150 gcatcgcggc caccgggatg gacatgtgga gcacccagga cctgtacgac 200 aaccccgtca cctccgtgtt ccagtacgaa gggctctgga ggagctgcgt 250 gaggcagagt tcaggcttca ccgaatgcag gccctatttc accatcctgg 300 gacttccagc catgctgcag gcagtgcgag ccctgatgat cgtaggcatc 350 gtcctgggtg ccattggcct cctggtatcc atctttgccc tgaaatgcat 400 ccgcattggc agcatggagg actctgccaa agccaacatg acactgacct 450 ccgggatcat gttcattgtc tcaggtcttt gtgcaattgc tggagtgtct 500 gtgtttgcca acatgctggt gactaacttc tggatgtcca cagctaacat 550 qtacaccqqc atqqqtqqqa tqqtqcagac tqttcaqacc aqqtacacat 600 ttggtgcggc tctgttcgtg ggctgggtcg ctggaggcct cacactaatt 650 gggggtgtga tgatgtgcat cgcctgccgg ggcctggcac cagaagaaac 700 caactacaaa gccgtttctt atcatgcctc aggccacagt gttgcctaca 750 agcctggagg cttcaaggcc agcactggct ttgggtccaa caccaaaaac 800 aagaagatat acgatggagg tgcccgcaca gaggacgagg tacaatctta 850 teetteeaag cacgactatg tgtaatgete taagacetet cageaeggge 900 ggaagaaact cccggagagc tcacccaaaa aacaaggaga tcccatctag 950 atttcttctt gcttttgact cacagctgga agttagaaaa gcctcgattt 1000 catctttgga gaggccaaat ggtcttagcc tcagtctctg tctctaaata 1050 ttccaccata aaacagctga gttatttatg aattagaggc tatagctcac 1100 attttcaatc ctctatttct ttttttaaat ataactttct actctgatga 1150 gagaatgtgg ttttaatctc tctctcacat tttgatgatt tagacagact 1200 ccccctcttc ctcctagtca ataaacccat tgatgatcta tttcccagct 1250 tatccccaag aaaacttttg aaaggaaaga gtagacccaa agatgttatt 1300 ttctgctgtt tgaattttgt ctccccaccc ccaacttggc tagtaataaa 1350 cacttactga agaagaagca ataagagaaa gatatttgta atctctccag 1400 agtcattttc agtttgaggc aaccaaacct ttctactgct gttgacatct 1500 tettattaca geaacaceat tetaggagtt teetgagete tecaetggag 1550 tcctctttct gtcgcgggtc agaaattgtc cctagatgaa tgagaaaatt 1600 atttttttta atttaagtcc taaatatagt taaaataaat aatgttttag 1650 taaaatgata cactatctct gtgaaatagc ctcaccccta catgtggata 1700 gaaggaaatg aaaaaataat tgctttgaca ttgtctatat ggtactttgt 1750 aaagtcatgc ttaagtacaa attccatgaa aagctcacac ctgtaatcct 1800 agcactttgg gaggctgagg aggaaggatc acttgagccc agaagttcga 1850 gactagectg ggcaacatgg agaagecetg tetetacaaa atacagagag 1900 aaaaaatcag ccagtcatgg tggcatacac ctgtagtccc agcattccgg 1950 gaggctgagg tgggaggatc acttgagccc agggaggttg gggctgcagt 2000 gagccatgat cacaccactg cactccagcc aggtgacata gcgagatcct 2050 gtctaaaaaa ataaaaaata aataatggaa cacagcaagt cctaggaagt 2100 aggttaaaac taattcttta a 2121

<210> 326

<211> 261

<212> PRT

<213> Homo sapiens

<400> 326

Met Ser Thr Thr Thr Cys Gln Val Val Ala Phe Leu Leu Ser Ile 1 5 10 15

Leu Gly Leu Ala Gly Cys Ile Ala Ala Thr Gly Met Asp Met Trp  $20 \\ 25 \\ 30$ 

Ser Thr Gln Asp Leu Tyr Asp Asn Pro Val Thr Ser Val Phe Gln 35 40 45

Tyr Glu Gly Leu Trp Arg Ser Cys Val Arg Gln Ser Ser Gly Phe 50 55 60

Thr Glu Cys Arg Pro Tyr Phe Thr Ile Leu Gly Leu Pro Ala Met 65 70 75

Leu Gln Ala Val Arg Ala Leu Met Ile Val Gly Ile Val Leu Gly

90 80 85 Ala Ile Gly Leu Leu Val Ser Ile Phe Ala Leu Lys Cys Ile Arg 100 Ile Gly Ser Met Glu Asp Ser Ala Lys Ala Asn Met Thr Leu Thr 115 Ser Gly Ile Met Phe Ile Val Ser Gly Leu Cys Ala Ile Ala Gly Val Ser Val Phe Ala Asn Met Leu Val Thr Asn Phe Trp Met Ser Thr Ala Asn Met Tyr Thr Gly Met Gly Gly Met Val Gln Thr Val Gln Thr Arg Tyr Thr Phe Gly Ala Ala Leu Phe Val Gly Trp Val Ala Gly Gly Leu Thr Leu Ile Gly Gly Val Met Met Cys Ile Ala 185 190 Cys Arg Gly Leu Ala Pro Glu Glu Thr Asn Tyr Lys Ala Val Ser 205 Tyr His Ala Ser Gly His Ser Val Ala Tyr Lys Pro Gly Gly Phe Lys Ala Ser Thr Gly Phe Gly Ser Asn Thr Lys Asn Lys Lys Ile 235 Tyr Asp Gly Gly Ala Arg Thr Glu Asp Glu Val Gln Ser Tyr Pro 245 250

<210> 327

<211> 2010

<212> DNA

<213> Homo sapiens

Ser Lys His Asp Tyr Val

260

<400> 327

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tgctgcttcc gtgatgtcct tcttggcttt catgatggcc atccttggca 400 tgaaatgcac caggtgcacg ggggacaatg agaaggtgaa ggctcacatt 450 ctgctgacgg ctggaatcat cttcatcatc acgggcatgg tggtgctcat 500 ccctgtgagc tgggttgcca atgccatcat cagagatttc tataactcaa 550 tagtgaatgt tgcccaaaaa cgtgagcttg gagaagctct ctacttagga 600 tggaccacgg cactggtgct gattgttgga ggagctctgt tctgctgcgt 650 tttttgttgc aacgaaaaga gcagtagcta cagatactcg ataccttccc 700 atcgcacaac ccaaaaaagt tatcacaccg gaaagaagtc accgagcgtc 750 tactccagaa gtcagtatgt gtagttgtgt atgttttttt aactttacta 800 taaagccatg caaatgacaa aaatctatat tactttctca aaatggaccc 850 caaagaaact ttgatttact gttcttaact gcctaatctt aattacagga 900 actgtgcatc agctatttat gattctataa gctatttcag cagaatgaga 950 tattaaaccc aatgctttga ttgttctaga aagtatagta atttgttttc 1000 taaggtggtt caagcatcta ctctttttat catttacttc aaaatgacat 1050 tgctaaagac tgcattattt tactactgta atttctccac gacatagcat 1100 tatgtacata gatgagtgta acatttatat ctcacataga gacatgctta 1150 tatggtttta tttaaaatga aatgccagtc cattacactg aataaataga 1200 actcaactat tgcttttcag ggaaatcatg gatagggttg aagaaggtta 1250 ctattaattg tttaaaaaca gcttagggat taatgtcctc catttataat 1300 gaagattaaa atgaaggctt taatcagcat tgtaaaggaa attgaatggc 1350 tttctgatat gctgtttttt agcctaggag ttagaaatcc taacttcttt 1400 atcctcttct cccagaggct ttttttttct tgtgtattaa attaacattt 1450 ttaaaacgca gatattttgt caaggggctt tgcattcaaa ctgcttttcc 1500 agggctatac tcagaagaaa gataaaagtg tgatctaaga aaaagtgatg 1550 gttttaggaa agtgaaaata tttttgtttt tgtatttgaa gaagaatgat 1600 gcattttgac aagaaatcat atatgtatgg atatatttta ataagtattt 1650 gagtacagac tttgaggttt catcaatata aataaaagag cagaaaaata 1700 tgtcttggtt ttcatttgct taccaaaaaa acaacaacaa aaaaagttgt 1750 cctttgagaa cttcacctgc tcctatgtgg gtacctgagt caaaattgtc 1800 attttgttc tgtgaaaaat aaatttcctt cttgtaccat ttctgtttag 1850 ttttactaaa atctgtaaat actgtatttt tctgtttatt ccaaatttga 1900 tgaaactgac aatccaattt gaaagtttgt gtcgacgtct gtctagctta 1950 aatgaatgtg ttctatttgc tttatacatt tatattaata aattgtacat 2000 ttttctaatt 2010

<210> 328

<211> 225

<212> PRT

<213> Homo sapiens

<400> 328

Met Ala Thr His Ala Leu Glu Ile Ala Gly Leu Phe Leu Gly Gly
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Val Gly Met Val Gly Thr Val Ala Val Thr Val Met Pro Gln Trp 20 25 30

Arg Val Ser Ala Phe Ile Glu Asn Asn Ile Val Val Phe Glu Asn 35 40 45

Phe Trp Glu Gly Leu Trp Met Asn Cys Val Arg Gln Ala Asn Ile 50 55 60

Arg Met Gln Cys Lys Ile Tyr Asp Ser Leu Leu Ala Leu Ser Pro 65 70 75

Asp Leu Gln Ala Ala Arg Gly Leu Met Cys Ala Ala Ser Val Met 80 85 90

Ser Phe Leu Ala Phe Met Met Ala Ile Leu Gly Met Lys Cys Thr  $95 \hspace{1.5cm} 100 \hspace{1.5cm} 105$ 

Arg Cys Thr Gly Asp Asn Glu Lys Val Lys Ala His Ile Leu Leu 110 115 120

Thr Ala Gly Ile Ile Phe Ile Ile Thr Gly Met Val Val Leu Ile 125 130 135

Pro Val Ser Trp Val Ala Asn Ala Ile Ile Arg Asp Phe Tyr Asn 140 145 150

Ser Ile Val Asn Val Ala Gln Lys Arg Glu Leu Gly Glu Ala Leu
155 160 165

Tyr Leu Gly Trp Thr Thr Ala Leu Val Leu Ile Val Gly Gly Ala 170 175 180

Leu Phe Cys Cys Val Phe Cys Cys Asn Glu Lys Ser Ser Syr Tyr 185 190 195

Arg Tyr Ser Ile Pro Ser His Arg Thr Thr Gln Lys Ser Tyr His 200 205 210

Thr Gly Lys Lys Ser Pro Ser Val Tyr Ser Arg Ser Gln Tyr Val 215 220 225

<210> 329

<211> 1315

<212> DNA

<213> Homo sapiens

<400> 329

tegecatgge etetgeegga atgeagatee tgggagtegt cetgaeactg 50 ctgggctggg tgaatggcct ggtctcctgt gccctgccca tgtggaaggt 100 gaccgctttc atcggcaaca gcatcgtggt ggcccaggtg gtgtgggagg 150 gcctgtggat gtcctgcgtg gtgcagagca ccggccagat gcagtgcaag 200 gtgtacgact cactgctggc gctgccacag gacctgcagg ctgcacgtgc 250 cctctgtgtc atcgccctcc ttgtggccct gttcggcttg ctggtctacc 300 ttgctggggc caagtgtacc acctgtgtgg aggagaagga ttccaaggcc 350 cgcctggtgc tcacctctgg gattgtcttt gtcatctcag gggtcctgac 400 gctaatcccc gtgtgctgga cggcgcatgc catcatccgg gacttctata 450 accecetqqt qqctqaqqcc caaaaqcqqq aqctqqqqqc ctccctctac 500 ttqqqctqqq cqqcctcaqq ccttttqttq ctqqqtqqqq qqttqctqtg 550 ctgcacttgc ccctcqqqqq qqtcccaqqq ccccaqccat tacatggccc 600 gctactcaac atctgcccct gccatctctc gggggccctc tgagtaccct 650 accaagaatt acgtctgacg tggaggggaa tgggggctcc gctggcgcta 700 gagccatcca gaagtggcag tgcccaacag ctttgggatg ggttcgtacc 750 ttttgtttct gcctcctgct atttttcttt tgactgagga tatttaaaaat 800 tcatttgaaa actgagccaa ggtgttgact cagactctca cttaggctct 850 gctgtttctc acccttggat gatggagcca aagaggggat gctttgagat 900 totggatott gacatgocca tottagaago cagtoaagot atggaactaa 950 tgcggaggct gcttgctgtg ctggctttgc aacaagacag actgtcccca 1000 agagttcctg ctgctgctgg gggctgggct tccctagatg tcactggaca 1050 gctgcccccc atcctactca ggtctctgga gctcctctct tcacccctgg 1100 aaaaacaaat catctgttaa caaaqqactg cccacctccg gaacttctga 1150 cctctgtttc ctccgtcctg ataagacgtc cacccccag ggccaggtcc 1200 cagctatgta gaccccccc eccacctcca acactgcacc cttctgccct 1250

geoecceteg teteaccee tttacactea catttttate aaataaagea 1300 tgttttgtta gtgca 1315

<210> 330

<211> 220

<212> PRT

<213> Homo sapiens

<400> 330

Met Ala Ser Ala Gly Met Gln Ile Leu Gly Val Val Leu Thr Leu 1 5 10 15

Leu Gly Trp Val Asn Gly Leu Val Ser Cys Ala Leu Pro Met Trp
20 25 30

Lys Val Thr Ala Phe Ile Gly Asn Ser Ile Val Val Ala Gln Val 35 40 45

Val Trp Glu Gly Leu Trp Met Ser Cys Val Val Gln Ser Thr Gly
50 55 60

Gln Met Gln Cys Lys Val Tyr Asp Ser Leu Leu Ala Leu Pro Gln
65 70 75

Asp Leu Gln Ala Ala Arg Ala Leu Cys Val Ile Ala Leu Leu Val 80 85 90

Ala Leu Phe Gly Leu Leu Val Tyr Leu Ala Gly Ala Lys Cys Thr 95 100 105

Thr Cys Val Glu Glu Lys Asp Ser Lys Ala Arg Leu Val Leu Thr 110 115 120

Ser Gly Ile Val Phe Val Ile Ser Gly Val Leu Thr Leu Ile Pro 125 130 135

Val Cys Trp Thr Ala His Ala Ile Ile Arg Asp Phe Tyr Asn Pro  $140 \,$  145  $\,$  150

Leu Val Ala Glu Ala Gln Lys Arg Glu Leu Gly Ala Ser Leu Tyr 155 160 165

Leu Gly Trp Ala Ala Ser Gly Leu Leu Leu Gly Gly Gly Leu 170 175 180

Leu Cys Cys Thr Cys Pro Ser Gly Gly Ser Gln Gly Pro Ser His
185 190 195

Tyr Met Ala Arg Tyr Ser Thr Ser Ala Pro Ala Ile Ser Arg Gly
200 205 210

Pro Ser Glu Tyr Pro Thr Lys Asn Tyr Val 215 220

<210> 331

<211> 1160

<212> DNA

## <213> Homo sapiens

<400> 331 gccaaqqaqa acatcatcaa agacttctct agactcaaaa ggcttccacg 50 ttctacatct tgagcatctt ctaccactcc gaattgaacc agtcttcaaa 100 gtaaaggcaa tggcatttta tcccttgcaa attgctgggc tggttcttgg 150 gttccttggc atggtgggga ctcttgccac aacccttctg cctcagtggt 200 ggagtatcag cttttgttgg cagcaacatt attgtctttg agaggctctg 250 ggaagggctc tggatgaatt gcatccgaca agccagggtc cggttgcaat 300 geaagtteta tageteettg ttggetetee egeetgeeet ggaaacagee 350 cgggccctca tgtgtgtggc tgttgctctc tccttgatcg ccctgcttat 400 tggcatctgt ggcatgaagc aggtccagtg cacaggctct aacgagaggg 450 ccaaaqcata ccttctqqqa acttcaqqaq tcctcttcat cctqacqqgt 500 atcttcqttc tqattccqqt qaqctqqaca qccaatataa tcatcagaga 550 tttctacaac ccagccatcc acataggtca gaaacgagag ctgggagcag 600 cacttttcct tggctgggca agcgctgctg tcctcttcat tggaggggt 650 ctgctttgtg gattttgctg ctgcaacaga aagaagcaag ggtacagata 700 tccagtgcct ggctaccgtg tgccacacac agataagcga agaaatacga 750 caatgcttag taagacctcc accagttatg tctaatgcct ccttttggct 800 ccaagtatgg actatggtca atgttttta taaagtcctg ctagaaactg 850 taagtatgtg aggcaggaga acttgcttta tgtctagatt tacattgata 900 cgaaagtttc aatttgttac tggtggtagg aatgaaaatg acttacttgg 950 acattctgac ttcaggtgta ttaaatgcat tgactattgt tggacccaat 1000 cgctgctcca attttcatat tctaaattca agtataccca taatcattag 1050 caagtgtaca atgatggact acttattact ttttgaccat catgtattat 1100 ctgataagaa tctaaagttg aaattgatat tctataacaa taaaacatat 1150 acctattcta 1160

Met Asn Cys Ile Arg Gln Ala Arg Val Arg Leu Gln Cys Lys Phe

<sup>&</sup>lt;210> 332

<sup>&</sup>lt;211> 173

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 332

1 5 15 10 Tyr Ser Ser Leu Leu Ala Leu Pro Pro Ala Leu Glu Thr Ala Arg Ala Leu Met Cys Val Ala Val Ala Leu Ser Leu Ile Ala Leu Leu 45 Ile Gly Ile Cys Gly Met Lys Gln Val Gln Cys Thr Gly Ser Asn Glu Arg Ala Lys Ala Tyr Leu Leu Gly Thr Ser Gly Val Leu Phe Ile Leu Thr Gly Ile Phe Val Leu Ile Pro Val Ser Trp Thr Ala Asn Ile Ile Ile Arg Asp Phe Tyr Asn Pro Ala Ile His Ile Gly Gln Lys Arg Glu Leu Gly Ala Ala Leu Phe Leu Gly Trp Ala Ser Ala Val Leu Phe Ile Gly Gly Leu Leu Cys Gly Phe Cys Cys Cys Asn Arg Lys Lys Gln Gly Tyr Arg Tyr Pro Val Pro Gly Tyr Arg Val Pro His Thr Asp Lys Arg Arg Asn Thr Thr Met Leu Ser Lys Thr Ser Thr Ser Tyr Val <210> 333 <212> DNA

<211> 535

<213> Homo sapiens

<400> 333

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<210> 334

<211> 85

<212> PRT

<213> Homo sapiens

<400> 334

Met Lys Ile Thr Gly Gly Leu Leu Leu Cys Thr Val Val Tyr  $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$ 

Phe Cys Ser Ser Ser Glu Ala Ala Ser Leu Ser Pro Lys Lys Val 20 25 30

Asp Cys Ser Ile Tyr Lys Lys Tyr Pro Val Val Ala Ile Pro Cys 35 40 45

Pro Ile Thr Tyr Leu Pro Val Cys Gly Ser Asp Tyr Ile Thr Tyr 50 55 60

Gly Asn Glu Cys His Leu Cys Thr Glu Ser Leu Lys Ser Asn Gly
65 70 75

Arg Val Gln Phe Leu His Asp Gly Ser Cys 80 85

<210> 335

<211> 742

<212> DNA

<213> Homo sapiens

<400> 335

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agcgattctc ttcatgtatc tcctaatgcc ttacactact tggtttctga 600

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<210> 336

<211> 148

<212> PRT

<213> Homo sapiens

<400> 336

Met Ala Ala Ser Pro Ala Arg Pro Ala Val Leu Ala Leu Thr Gly
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Leu Ala Leu Leu Leu Leu Cys Trp Gly Pro Gly Gly Ile Ser 20 25 30

Gly Asn Lys Leu Lys Leu Met Leu Gln Lys Arg Glu Ala Pro Val 35 40 45

Pro Thr Lys Thr Lys Val Ala Val Asp Glu Asn Lys Ala Lys Glu
. 50 55 60

Phe Leu Gly Ser Leu Lys Arg Gln Lys Arg Gln Leu Trp Asp Arg
65 70 75

Thr Arg Pro Glu Val Gln Gln Trp Tyr Gln Gln Phe Leu Tyr Met 80 85 90

Gly Phe Asp Glu Ala Lys Phe Glu Asp Asp Ile Thr Tyr Trp Leu 95 100 105

Asn Arg Asp Arg Asn Gly His Glu Tyr Tyr Gly Asp Tyr Tyr Gln
110 115 120

Arg His Tyr Asp Glu Asp Ser Ala Ile Gly Pro Arg Ser Pro Tyr 125 130 135

Gly Phe Arg His Gly Ala Ser Val Asn Tyr Asp Asp Tyr 140 145

<210> 337

<211> 1310

<212> DNA

<213> Homo sapiens

<400> 337

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cccacgacac cattggctcc ttgaaaagga cccagtttcc cggccgggaa 500
cagcaggtgc gactcatcta ccaagggcag ctgctaggcg acgacaccca 550
gaccetggge ageetteace teceteceaa etgegttete caetgecaeg 600
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aaaaaaaaa 1310
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<210> 338

<211> 246

<212> PRT

<213> Homo sapiens

<400> 338

Met Thr Leu Ile Glu Gly Val Gly Asp Glu Val Thr Val Leu Phe 1 5 10 15

Ser Val Leu Ala Cys Leu Leu Val Leu Ala Leu Ala Trp Val Ser 20 25 30

Thr His Thr Ala Glu Gly Gly Asp Pro Leu Pro Gln Pro Ser Gly
35 40 45

Thr Pro Thr Pro Ser Gln Pro Ser Ala Ala Met Ala Ala Thr Asp Ser Met Arg Gly Glu Ala Pro Gly Ala Glu Thr Pro Ser Leu Arg His Arg Gly Gln Ala Ala Gln Pro Glu Pro Ser Thr Gly Phe Thr Ala Thr Pro Pro Ala Pro Asp Ser Pro Gln Glu Pro Leu Val Leu Arg Leu Lys Phe Leu Asn Asp Ser Glu Gln Val Ala Arg Ala Trp 120 110 Pro His Asp Thr Ile Gly Ser Leu Lys Arg Thr Gln Phe Pro Gly 135 125 Arg Glu Gln Gln Val Arg Leu Ile Tyr Gln Gly Gln Leu Leu Gly 150 140 Asp Asp Thr Gln Thr Leu Gly Ser Leu His Leu Pro Pro Asn Cys 165 155 160 Val Leu His Cys His Val Ser Thr Arg Val Gly Pro Pro Asn Pro 170 175 180 Pro Cys Pro Pro Gly Ser Glu Pro Gly Pro Ser Gly Leu Glu Ile 190 Gly Ser Leu Leu Leu Pro Leu Leu Leu Leu Leu Leu Leu Leu 205 210 Trp Tyr Cys Gln Ile Gln Tyr Arg Pro Phe Pro Leu Thr Ala 220 Thr Leu Gly Leu Ala Gly Phe Thr Leu Leu Ser Leu Leu Ala 230 235 240 Phe Ala Met Tyr Arg Pro

<210> 339

<211> 849

<212> DNA

<213> Homo sapiens

<400> 339

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atgacaaagg cgctactcat ctatttggtc agcagctttc ttgccctaaa 200
tcaggccagc ctcatcagtc gctgtgactt ggcccaggtg ctgcagctgg 250

aggacttgga tgggtttgag ggttactccc tgagtgactg gctgtgcctg 300 gcttttgtgg aaagcaagtt caacatatca aagataaatg aaaatgcgga 350 tggaagcttt gactatggcc tcttccagat caacagccac tactggtgca 400 acgattataa gagttactcg gaaaaccttt gccacgtaga ctgtcaagat 450 ctgctgaatc ccaaccttct tgcaggcatc cactgcgcaa aaaggattgt 500 gtccggagca cgggggatga acaactgggt agaatggagg ttgcactgtt 550 caggccggcc actctcctac tggctgacag gatgccgcct gagatgaaac 600 agggtgcggg tgcaccgtgg agtcattcca agactcctgt cctcactcag 650 ggattcttca tttcttctc ctactgcctc cacttcatgt tattttctc 700 ccttcccatt tacaactaaa actgaccaga gccccaggaa taaatggttt 750 tcttggcttc ctccttactc ccactctgac ccagtccct ggttcctgtc 800 tgttatttgt aaactgagga ccacaataaa gaaatcttta tattatcg 849

<210> 340

<211> 148

<212> PRT

<213> Homo sapiens

<400> 340

Met Thr Lys Ala Leu Leu Ile Tyr Leu Val Ser Ser Phe Leu Ala 1 5 10 15

Leu Asn Gln Ala Ser Leu Ile Ser Arg Cys Asp Leu Ala Gln Val 20 25 30

Leu Gln Leu Glu Asp Leu Asp Gly Phe Glu Gly Tyr Ser Leu Ser
35 40 45

Asp Trp Leu Cys Leu Ala Phe Val Glu Ser Lys Phe Asn Ile Ser 50 55 60

Lys Ile Asn Glu Asn Ala Asp Gly Ser Phe Asp Tyr Gly Leu Phe 65 70 75

Gln Ile Asn Ser His Tyr Trp Cys Asn Asp Tyr Lys Ser Tyr Ser 80 85 90

Glu Asn Leu Cys His Val Asp Cys Gln Asp Leu Leu Asn Pro Asn 95 100 105

Leu Leu Ala Gly Ile His Cys Ala Lys Arg Ile Val Ser Gly Ala

Arg Gly Met Asn Asn Trp Val Glu Trp Arg Leu His Cys Ser Gly 125 130 135

Arg Pro Leu Ser Tyr Trp Leu Thr Gly Cys Arg Leu Arg

140 145 <210> 341

<211> 23 <212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-23

<223> Synthetic construct.

<400> 341

ccctccaagg atgacaaagg cgc 23

<210> 342

<211> 29

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-29

<223> Synthetic construct.

<400> 342

ggtcagcagc tttcttgccc taaatcagg 29

<210> 343

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 343

atctcaggcg gcatcctgtc agcc 24

<210> 344

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 344

gtggatgcct gcaagaaggt tggg 24

<210> 345

<211> 45

<212> DNA

<213> Artificial

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<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 345
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<210> 346
<211> 2575
<212> DNA
<213> Homo sapiens
<400> 346
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actgagaacc caccagctca tcccagacac ctcatagcaa cctatttata 100
caaaggggga aagaaacacc tgagcagaat ggaatcatta ttttttccc 150
 gtgaatgggc tttcagaagg caattaaaga aatccactca gagaggactt 250
 ggggtgaaac ttgggtcctg tggttttctg attgtaagtg gaagcaggtc 300
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<210> 347

<211> 639

<212> PRT

<213> Homo sapiens

<400> 347

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Phe Leu Leu Leu Leu Met Leu Gly Cys Val Leu Met Met Val 20 25 30

Ala Met Leu His Pro Pro His His Thr Leu His Gln Thr Val Thr
35 40 45

Ala Gln Ala Ser Lys His Ser Pro Glu Ala Arg Tyr Arg Leu Asp
50 55 60

Phe Gly Glu Ser Gln Asp Trp Val Leu Glu Ala Glu Asp Glu Gly 65 70 75

Glu Glu Tyr Ser Pro Leu Glu Gly Leu Pro Pro Phe Ile Ser Leu 80 85 90

Arg Glu Asp Gln Leu Leu Val Ala Val Ala Leu Pro Gln Ala Arg 95 100 105

Arg Asn Gln Ser Gln Gly Arg Arg Gly Gly Ser Tyr Arg Leu Ile 110 115 120

Lys Gln Pro Arg Arg Gln Asp Lys Glu Ala Pro Lys Arg Asp Trp
125 130 135

Gly Ala Asp Glu Asp Gly Glu Val Ser Glu Glu Glu Glu Leu Thr 140 145 150

Pro Phe Ser Leu Asp Pro Arg Gly Leu Gln Glu Ala Leu Ser Ala 155 160 165

Arg Ile Pro Leu Gln Arg Ala Leu Pro Glu Val Arg His Pro Leu 170 175 180

Cys Leu Gln Gln His Pro Gln Asp Ser Leu Pro Thr Ala Ser Val 185 190 195

Ile Leu Cys Phe His Asp Glu Ala Trp Ser Thr Leu Leu Arg Thr 200 205 210

Val His Ser Ile Leu Asp Thr Val Pro Arg Ala Phe Leu Lys Glu 215 220 225

Ile Ile Leu Val Asp Asp Leu Ser Gln Gln Gly Gln Leu Lys Ser 230 235 240

Ala Leu Ser Glu Tyr Val Ala Arg Leu Glu Gly Val Lys Leu Leu 245 250 255

Arg Ser Asn Lys Arg Leu Gly Ala Ile Arg Ala Arg Met Leu Gly Ala Thr Arg Ala Thr Gly Asp Val Leu Val Phe Met Asp Ala His Cys Glu Cys His Pro Gly Trp Leu Glu Pro Leu Leu Ser Arg Ile Ala Gly Asp Arg Ser Arg Val Val Ser Pro Val Ile Asp Val Ile Asp Trp Lys Thr Phe Gln Tyr Tyr Pro Ser Lys Asp Leu Gln Arg Gly Val Leu Asp Trp Lys Leu Asp Phe His Trp Glu Pro Leu Pro 340 Glu His Val Arg Lys Ala Leu Gln Ser Pro Ile Ser Pro Ile Arg 355 Ser Pro Val Val Pro Gly Glu Val Val Ala Met Asp Arg His Tyr Phe Gln Asn Thr Gly Ala Tyr Asp Ser Leu Met Ser Leu Arg Gly Gly Glu Asn Leu Glu Leu Ser Phe Lys Ala Trp Leu Cys Gly Gly Ser Val Glu Ile Leu Pro Cys Ser Arg Val Gly His Ile Tyr Gln Asn Gln Asp Ser His Ser Pro Leu Asp Gln Glu Ala Thr Leu Arg Asn Arg Val Arg Ile Ala Glu Thr Trp Leu Gly Ser Phe Lys Glu 440 Thr Phe Tyr Lys His Ser Pro Glu Ala Phe Ser Leu Ser Lys Ala Glu Lys Pro Asp Cys Met Glu Arg Leu Gln Leu Gln Arg Arg Leu Gly Cys Arg Thr Phe His Trp Phe Leu Ala Asn Val Tyr Pro Glu Leu Tyr Pro Ser Glu Pro Arg Pro Ser Phe Ser Gly Lys Leu His 510 Asn Thr Gly Leu Gly Leu Cys Ala Asp Cys Gln Ala Glu Gly Asp Ile Leu Gly Cys Pro Met Val Leu Ala Pro Cys Ser Asp Ser Arg Gln Gln Gln Tyr Leu Gln His Thr Ser Arg Lys Glu Ile His Phe

				545					550					555	
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Ile	Leu	Gln	Asn	Cys 575	Thr	Glu	Glu	Gly	Leu 580	Ala	Ile	His	Gln	Gln 585	
His '	Trp	Asp	Phe	Gln 590	Glu	Asn	Gly	Met	Ile 595	Val	His	Ile	Leu	Ser 600	
Gly :	Lys	Суз	Met	Glu 605	Ala	Val	Val	Gln	Glu 610	Asn	Asn	Lys	Asp	Leu 615	
Tyr	Leu	Arg	Pro	Cys 620	Asp	Gly	Lys	Ala	Arg 625	Gln	Gln	Trp	Arg	Phe 630	
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<220> <221> Artificial Sequence <222> 1-23 <223> Synthetic construct.															
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tgccagggac cggagtcagc tggttcaagg ccatcgggag ctctgcctcc 2250
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caggitette ceteettete aetggittit ceaeetteet eetteette 2400
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tcaaataaag cctttgcaag ataa 2524
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<sup>&</sup>lt;210> 352

<sup>&</sup>lt;211> 243

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 352

Met Arg Pro Gln Gly Pro Ala Ala Ser Pro Gln Arg Leu Arg Gly
1 5 10 15

Leu Leu Leu Leu Leu Leu Gln Leu Pro Ala Pro Ser Ser Ala Ser Glu Ile Pro Lys Gly Lys Gln Lys Ala Gln Leu Arg Gln Arg Glu Val Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala Gly Val Pro Gly Arg Asp Gly Ser Pro Gly Ala Asn Val Ile Pro Gly Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys Gly Glu Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn 100 Tyr Lys Gln Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu Gly Lys Ile Ala Glu Cys Thr Phe Thr Lys Met Arg Ser Asn Ser Ala Leu Arg Val Leu Phe Ser Gly Ser Leu Arg Leu Lys Cys Arg Asn Ala Cys Cys Gln Arg Trp Tyr Phe Thr Phe Asn Gly Ala Glu Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile Ile Tyr Leu Asp Gln Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile His Arg Thr Ser Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu Val Asp 200 Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly Asp Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Glu Glu

Leu Pro Lys

<210> 353

<211> 480

<212> DNA

<213> Homo sapiens

<400> 353

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teeggggtte tggeecetge ggtgeteaea gaegatgtte cacaggagee 150 egtgeecaeg etgtggaaeg ageeggeega getgeegteg ggagaaggee 200 eegtggagag eaceageece ggeegggage eegtggaeae eggteeceea 250 geeceeaeeg tegegeeagg aceegaggae ageaeeggee aggagegget 300 ggaecaggge ggegggtege tggggeeegg egetategeg geeategtga 350 tegeegeeet getggeeaee tgegtggtge tggegetegt ggtegtege 400 etgagaaagt tttetgeete etgaagegaa taaaggggee gegeeeggee 450 geggegegae teggeaaaaa aaaaaaaaa 480

<210> 354

<211> 121

<212> PRT

<213> Homo sapiens

<400> 354

Met Ala Ser Cys Leu Ala Leu Arg Met Ala Leu Leu Val Ser 1 5 10 15

Gly Val Leu Ala Pro Ala Val Leu Thr Asp Asp Val Pro Gln Glu
20 25 30

Pro Val Pro Thr Leu Trp Asn Glu Pro Ala Glu Leu Pro Ser Gly 35 40 45

Glu Gly Pro Val Glu Ser Thr Ser Pro Gly Arg Glu Pro Val Asp
50 55 60

Thr Gly Pro Pro Ala Pro Thr Val Ala Pro Gly Pro Glu Asp Ser
65 70 75

Thr Ala Gln Glu Arg Leu Asp Gln Gly Gly Gly Ser Leu Gly Pro 80 85 90

Gly Ala Ile Ala Ala Ile Val Ile Ala Ala Leu Leu Ala Thr Cys 95 100

Val Val Leu Ala Leu Val Val Val Ala Leu Arg Lys Phe Ser Ala 110 115 120

Ser

<210> 355

<211> 2134

<212> DNA

<213> Homo sapiens

<400> 355

ggccgttggt tggtgcgcgg ctgaagggtg tggcgcgagc agcgtcgttg 50 gttggccggc ggcgggccgg gacggcatg gccctgctgc tgtgcctggt 100

gtgcctgacg gcggcgctgg cccacggctg tctgcactgc cacagcaact 150 tctccaagaa gttctccttc taccgccacc atgtgaactt caagtcctgg 200 tgggtgggcg acateceegt gteaggggcg etgeteaeeg actggagega 250 cgacacgatg aaggagctgc acctggccat ccccgccaag atcacccggg 300 agaagctgga ccaagtggcg acagcagtgt accagatgat ggatcagctg 350 taccagggga agatgtactt ccccgggtat ttccccaacg agctgcgaaa 400 catcttccgg gagcaggtgc acctcatcca gaacgccatc atcgaaaggc 450 acctggcacc aggcagctgg ggaggaggc agctctccag ggagggaccc 500 agcctagcac ctgaaggatc aatgccatca ccccgcgggg acctccccta 550 agtagccccc agaggcgctg ggagtgttgc caccgccctc ccctgaagtt 600 tgctccatct cacgctgggg gtcaacctgg ggaccccttc cctccgggcc 650 atggacacac atacatgaaa accaggccgc atcgactgtc agcaccgctg 700 tggcatcttc cagtacgaga ccatctcctg caacaactgc acagactcgc 750 acgtcgcctg ctttggctat aactgcgagt agggctcagg catcacaccc 800 accegtgeea gggeectact gteectgggg teecaggete teettggagg 850 gggctccccg ccttccacct ggctgtcatc gggtagggcg gggccgtggg 900 ttcaggggcg caccacttcc aagcctgtgt cccacaggtc ctcggcgcag 950 tggaagtcag ctgtccaggg cctcctgaac tacataaata actggcacaa 1000 gtaagtcccc tcctcaaacc aacacaggca gtgtgtgtat gtgagcacct 1050 cgtgggtgag tatgtgtggg gcacaggctg gctccctcag ctcccacgtc 1100 ctagaggggc tcccgaggag gtggaacctc aacccagctc tgcgcaggag 1150 gcggctgcag tccttttctc cctcaaaggt ctccgaccct cagctggagg 1200 cgggcatctt tcctaaaggg tccccatagg gtctggttcc accccatccc 1250 aggtctgtgg tcagagcctg ggagggttcc ctacgatggt taggggtgcc 1300 ccatggaggg gctgactgcc ccacattgcc tttcagacag gacacgagca 1350 tgaggtaagg ccgccctgac ctggacttca gggggagggg gtaaagggag 1400 agaggagggg ggctaggggg tcctctagat cagtgggggc actgcaggtg 1450 gggctctccc tatacctggg acacctgctg gatgtcacct ctgcaaccac 1500 acccatgtgg tggtttcatg aacagaccac gctcctctgc cttctcctgg 1550

cetgggacae acagagecae eceggeettg tgagtgaece agagaagga 1600 ggeeteggaa gaaggggtge tegtaageea acaceagegt geegeggeet 1650 geacaecett eggacateee aggeaegagg gtgtegtgga tgtggeeaea 1700 cataggaeca caegteecag etgggaggag aggeetgggg eeeeeaggga 1750 gggaggeagg gggtgggga eatggagae tgaggeagee tegteteeee 1800 geageetggt ategeeagee ttaaggtgte tggageeeee acaettggee 1850 aaeetgaeet tggaagatge tgetgagtgt eteaageage actgaeagea 1900 getgggeetg eeeeaggga aegtggggg ggagaeteag etggaeagee 1950 eetgeetgte actetggae tgggetgetg etgeeteagg aceeeetete 2000 egaeeeegga eagagetgag etggeeagg eeggagggg ggagggagg 2050 gaatggggt gggetgteg eageateage geetggeag gteegeaga 2100 etgegggatg tgattaaagt eeetgatgt tete 2134

<210> 356

<211> 157

<212> PRT

<213> Homo sapiens

<400> 356

Met Ala Leu Leu Cys Leu Val Cys Leu Thr Ala Ala Leu Ala 1 5 10 15

His Gly Cys Leu His Cys His Ser Asn Phe Ser Lys Lys Phe Ser 20 25 30

Phe Tyr Arg His His Val Asn Phe Lys Ser Trp Trp Val Gly Asp 35 40 45

Ile Pro Val Ser Gly Ala Leu Leu Thr Asp Trp Ser Asp Asp Thr
50 55 60

Met Lys Glu Leu His Leu Ala Ile Pro Ala Lys Ile Thr Arg Glu 65 70 75

Lys Leu Asp Gln Val Ala Thr Ala Val Tyr Gln Met Met Asp Gln 80 85 90

Leu Tyr Gln Gly Lys Met Tyr Phe Pro Gly Tyr Phe Pro Asn Glu 95 100 105

Leu Arg Asn Ile Phe Arg Glu Gln Val His Leu Ile Gln Asn Ala 110 115 120

Ile Ile Glu Arg His Leu Ala Pro Gly Ser Trp Gly Gly Gln 125 130 135

Leu Ser Arg Glu Gly Pro Ser Leu Ala Pro Glu Gly Ser Met Pro

<210> 357

<211> 1536

<212> DNA

<213> Homo sapiens

<400> 357

agcaggagca ggagagggac aatggaagct gccccgtcca ggttcatgtt 50 cctcttattt ctcctcacgt gtgagctggc tgcagaagtt gctgcagaag 100 ttgagaaatc ctcagatggt cctggtgctg cccaggaacc cacgtggctc 150 acagatgtcc cagctgccat ggaattcatt gctgccactg aggtggctgt 200 cataggette ttecaggatt tagaaatace ageagtgeee atacteeata 250 gcatggtgca aaaattccca ggcgtgtcat ttgggatcag cactgattct 300 gaggttctga cacactacaa catcactggg aacaccatct gcctctttcg 350 cctggtagac aatgaacaac tgaatttaga ggacgaagac attgaaagca 400 ttgatgccac caaattgagc cgtttcattg agatcaacag cctccacatg 450 gtgacagagt acaaccctgt gactgtgatt gggttattca acagcgtaat 500 tcagattcat ctcctcctga taatgaacaa ggcctcccca gagtatgaag 550 agaacatgca cagataccag aaggcagcca agctcttcca ggggaagatt 600 ctctttattc tggtggacag tggtatgaaa gaaaatggga aggtgatatc 650 atttttcaaa ctaaaggagt ctcaactgcc agctttggca atttaccaga 700 ctctagatga cqaqtqqqat acactqccca caqcaqaaqt ttccqtaqaq 750 catgtgcaaa acttttgtga tggattccta agtggaaaat tgttgaaaga 800 aaatcgtgaa tcagaaggaa agactccaaa ggtggaactc tgacttctcc 850 ttggaactac atatggccaa gtatctactt tatgcaaagt aaaaaggcac 900 aactcaaatc tcagagacac taaacaacag gatcactagg cctgccaacc 950 acacacaca gcacqtqcac acacqcacqc acqcqtqcac acacacacqc 1000 gcacacacac acacacag agettcattt cctgtcttaa aatctcgttt 1050 tetettette ettetttaa attteatate eteaeteeet ateeaattte 1100 cttcttatcg tgcattcata ctctgtaagc ccatctgtaa cacacctaga 1150 tcaaggcttt aagagactca ctgtgatgcc tctatgaaag agaggcattc 1200 ctagagaaag attgttccaa tttgtcattt aatatcaagt ttgtatactg 1250 cacatgactt acacacaaca tagttcctgc tcttttaagg ttacctaagg 1300 gttgaaactc taccttcttt cataagcaca tgtccgtctc tgactcagga 1350 tcaaaaacca aaggatggtt ttaaacacct ttgtgaaatt gtcttttgc 1400 cagaagttaa aggctgtctc caagtccctg aactcagcag aaatagacca 1450 tgtgaaaact ccatgcttgg ttagcatctc caactcccta tgtaaatcaa 1500 caacctgcat aataaataaa aggcaatcat gttata 1536

<210> 358

<211> 273

<212> PRT

<213> Homo sapiens

<400> 358

Met Glu Ala Ala Pro Ser Arg Phe Met Phe Leu Leu Phe Leu Leu 1 5 10 15

Thr Cys Glu Leu Ala Ala Glu Val Ala Ala Glu Val Glu Lys Ser 20 25 30

Ser Asp Gly Pro Gly Ala Ala Gln Glu Pro Thr Trp Leu Thr Asp 35 40 45

Val Pro Ala Ala Met Glu Phe Ile Ala Ala Thr Glu Val Ala Val 50 55 60

Ile Gly Phe Phe Gln Asp Leu Glu Ile Pro Ala Val Pro Ile Leu 65 70 75

His Ser Met Val Gln Lys Phe Pro Gly Val Ser Phe Gly Ile Ser 80 85 90

Thr Asp Ser Glu Val Leu Thr His Tyr Asn Ile Thr Gly Asn Thr 95 100 105

Ile Cys Leu Phe Arg Leu Val Asp Asn Glu Gln Leu Asn Leu Glu
110 115 120

Asp Glu Asp Ile Glu Ser Ile Asp Ala Thr Lys Leu Ser Arg Phe \$125\$ \$130\$ \$135

Ile Glu Ile Asn Ser Leu His Met Val Thr Glu Tyr Asn Pro Val 140 145 150

Thr Val Ile Gly Leu Phe Asn Ser Val Ile Gln Ile His Leu Leu 155 160 165

Leu Ile Met Asn Lys Ala Ser Pro Glu Tyr Glu Glu Asn Met His 170 175 180

Arg Tyr Gln Lys Ala Ala Lys Leu Phe Gln Gly Lys Ile Leu Phe
185 190 195

<210> 362

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Ile Leu Val Asp Ser Gly Met Lys Glu Asn Gly Lys Val Ile Ser
 Phe Phe Lys Leu Lys Glu Ser Gln Leu Pro Ala Leu Ala Ile Tyr
                 215
 Gln Thr Leu Asp Asp Glu Trp Asp Thr Leu Pro Thr Ala Glu Val
                                      235
 Ser Val Glu His Val Gln Asn Phe Cys Asp Gly Phe Leu Ser Gly
 Lys Leu Leu Lys Glu Asn Arg Glu Ser Glu Gly Lys Thr Pro Lys
Val Glu Leu
<210> 359
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 359
ccagcagtgc ccatactcca tagc 24
<210> 360
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-20
<223> Synthetic construct.
<400> 360
tgacgagtgg gatacactgc 20
<210> 361
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 361
gctctacgga aacttctgct gtgg 24
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<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 362
attcccaggc gtgtcatttg ggatcagcac tgattctgag gttctgacac 50
<210> 363
<211> 1777
<212> DNA
<213> Homo sapiens
<400> 363
ggagagccgc ggctgggacc ggagtgggga gcgcggcgtg gaggtgccac 50
ccggcgcggg tggcggagag atcagaagcc tcttccccaa gccgagccaa 100
cctcagcggg gacccgggct cagggacgcg gcggcggcgg cggcgactgc 150
agtggctgga cgatggcagc gtccgccgga gccggggcgg tgattgcagc 200
cccagacage eggegetgge tgtggteggt getggeggeg gegettggge 250
tcttgacagc tggagtatca gccttggaag tatatacgcc aaaagaaatc 300
ttcgtggcaa atggtacaca agggaagctg acctgcaagt tcaagtctac 350
tagtacgact ggcgggttga cctcagtctc ctggagcttc cagccagagg 400
gggccgacac tactgtgtcg tttttccact actcccaagg gcaagtgtac 450
cttgggaatt atccaccatt taaagacaga atcagctggg ctggagacct 500
tgacaagaaa gatgcatcaa tcaacataga aaatatgcag tttatacaca 550
atggcaccta tatctgtgat gtcaaaaacc ctcctgacat cgttgtccag 600
cctggacaca ttaggctcta tgtcgtagaa aaagagaatt tgcctgtgtt 650
tccagtttgg gtagtggtgg gcatagttac tgctgtggtc ctaggtctca 700
ctctgctcat cagcatgatt ctggctgtcc tctatagaag gaaaaactct 750
aaacgggatt acactggctg cagtacatca gagagtttgt caccagttaa 800
gcaggctcct cggaagtccc cctccgacac tgagggtctt gtaaagagtc 850
tgccttctgg atctcaccag ggcccagtca tatatgcaca gttagaccac 900
tccggcggac atcacagtga caagattaac aagtcagagt ctgtggtgta 950
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tgcggatatc cgaaagaatt aagagaatac ctagaacata tcctcagcaa 1000

gaaacaaaac caaactggac tctcgtgcag aaaatgtagc ccattaccac 1050 atgtagcctt ggagacccag gcaaggacaa gtacacgtgt actcacagag 1100 ggagagaaag atgtgtacaa aggatatgta taaatattct atttagtcat 1150 cctgatatga ggagccagtg ttgcatgatg aaaagatggt atgattctac 1200 atatgtaccc attgtcttgc tgtttttgta ctttcttttc aggtcattta 1250 caattgggag atttcagaaa cattcctttc accatcattt agaaatggtt 1300 tgccttaatg gagacaatag cagatcctgt agtatttcca gtagacatgg 1350 ccttttaatc taagggctta agactgatta gtcttagcat ttactgtagt 1400 tggaggatgg agatgctatg atggaagcat acccagggtg gcctttagca 1450 cagtatcagt accatttatt tgtctgccgc ttttaaaaaa tacccattgg 1500 ctatgccact tgaaaacaat ttgagaagtt tttttgaagt ttttctcact 1550 aaaatatggg gcaattgtta gccttacatg ttgtgtagac ttactttaag 1600 tttgcaccct tgaaatgtgt catatcaatt tctggattca taatagcaag 1650 attagcaaag gataaatgcc gaaggtcact tcattctgga cacagttgga 1700 tcaatactga ttaagtagaa aatccaagct ttgcttgaga acttttgtaa 1750 cgtggagagt aaaaagtatc ggtttta 1777

<210> 364

<211> 269

<212> PRT

<213> Homo sapiens

<400> 364

Met Ala Ala Ser Ala Gly Ala Gly Ala Val Ile Ala Ala Pro Asp 1 5 10 15

Ser Arg Arg Trp Leu Trp Ser Val Leu Ala Ala Ala Leu Gly Leu 20 25 30

Leu Thr Ala Gly Val Ser Ala Leu Glu Val Tyr Thr Pro Lys Glu
35 40 45

Ile Phe Val Ala Asn Gly Thr Gln Gly Lys Leu Thr Cys Lys Phe
50 55 60

Lys Ser Thr Ser Thr Thr Gly Gly Leu Thr Ser Val Ser Trp Ser 65 70 75

Phe Gln Pro Glu Gly Ala Asp Thr Thr Val Ser Phe Phe His Tyr 80 85 90

Ser Gln Gly Gln Val Tyr Leu Gly Asn Tyr Pro Pro Phe Lys Asp 95 100 105

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Arg Ile Ser Trp Ala Gly Asp Leu Asp Lys Lys Asp Ala Ser Ile
Asn Ile Glu Asn Met Gln Phe Ile His Asn Gly Thr Tyr Ile Cys
Asp Val Lys Asn Pro Pro Asp Ile Val Val Gln Pro Gly His Ile
Arg Leu Tyr Val Val Glu Lys Glu Asn Leu Pro Val Phe Pro Val
Trp Val Val Gly Ile Val Thr Ala Val Val Leu Gly Leu Thr
                                     175
Leu Leu Ile Ser Met Ile Leu Ala Val Leu Tyr Arg Arg Lys Asn
                185
Ser Lys Arg Asp Tyr Thr Gly Cys Ser Thr Ser Glu Ser Leu Ser
                200
                                     205
                                                         210
Pro Val Lys Gln Ala Pro Arg Lys Ser Pro Ser Asp Thr Glu Gly
                215
                                     220
                                                         225
Leu Val Lys Ser Leu Pro Ser Gly Ser His Gln Gly Pro Val Ile
                230
                                     235
                                                         240
Tyr Ala Gln Leu Asp His Ser Gly Gly His His Ser Asp Lys Ile
                245
                                     250
Asn Lys Ser Glu Ser Val Val Tyr Ala Asp Ile Arg Lys Asn
                260
                                     265
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<210> 365

<211> 1321

<212> DNA

<213> Homo sapiens

<400> 365

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cgaattgcta gcatcagcaa aagtctcacc atggttgctc ttgccaaatt 550 gtgggaagca gggaaactgg atcttgatat tccagtacaa cattatgttc 600 ccgaattccc agaaaaagaa tatgaaqqtg aaaaggtttc tgtcacaaca 650 agattactga tttcccattt aagtggaatt cgtcattatg aaaaggacat 700 aaaaaaggtg aaagaagaga aagcttataa agccttgaag atgatgaaag 750 agaatgttgc atttgagcaa gaaaaagaag gcaaaagtaa tgaaaagaat 800 gattttacta aatttaaaac agagcaggag aatgaagcca aatgccggaa 850 ttcaaaacct ggcaagaaaa agaatgattt tgaacaaggc gaattatatt 900 tgagagaaaa gtttgaaaat tcaattgaat ccctaagatt atttaaaaat 950 gatcetttgt tetteaaace tggtagteag tttttgtatt caacttttgg 1000 ctatacccta ctggcagcca tagtagagag agcttcagga tgtaaatatt 1050 tggactatat gcagaaaata ttccatgact tggatatgct gacgactgtg 1100 caggaagaaa acqaqccaqt qatttacaat agaqcaaggt aaatgaatac 1150 cttctgctgt gtctagctat atcgcatctt aacactattt tattaattaa 1200 aagtcaaatt ttctttgttt ccattccaaa atcaacctgc cacattttgg 1250 gagcttttct acatgtctgt tttctcatct gtaaagtgaa ggaagtaaaa 1300 catgtttata aagtaaaaaa a 1321

<210> 366

<211> 373

<212> PRT

<213> Homo sapiens

<400> 366

Met Tyr Arg Leu Leu Ser Ala Val Thr Ala Arg Ala Ala Pro 1 5 10 15

Gly Gly Leu Ala Ser Ser Cys Gly Arg Arg Gly Val His Gln Arg
20 25 30

Ala Gly Leu Pro Pro Leu Gly His Gly Trp Val Gly Gly Leu Gly 35 40 45

Leu Gly Leu Gly Leu Gly Val Lys Leu Ala Gly Gly Leu
50 55 60

Arg Gly Ala Ala Pro Ala Gln Ser Pro Ala Ala Pro Asp Pro Glu 65 70 75

Ala Ser Pro Leu Ala Glu Pro Pro Gl<br/>n Glu Glu Ser Leu Ala Pro 80 85 90

Trp Ser Pro Gln Thr Pro Ala Pro Pro Cys Ser Arg Cys Phe Ala Arg Ala Ile Glu Ser Ser Arg Asp Leu Leu His Arg Ile Lys Asp Glu Val Gly Ala Pro Gly Ile Val Val Gly Val Ser Val Asp Gly Lys Glu Val Trp Ser Glu Gly Leu Gly Tyr Ala Asp Val Glu Asn Arg Val Pro Cys Lys Pro Glu Thr Val Met Arg Ile Ala Ser Ile Ser Lys Ser Leu Thr Met Val Ala Leu Ala Lys Leu Trp Glu Ala Gly Lys Leu Asp Leu Asp Ile Pro Val Gln His Tyr Val Pro Glu Phe Pro Glu Lys Glu Tyr Glu Gly Glu Lys Val Ser Val Thr Thr Arg Leu Leu Ile Ser His Leu Ser Gly Ile Arg His Tyr Glu Lys 215 Asp Ile Lys Lys Val Lys Glu Glu Lys Ala Tyr Lys Ala Leu Lys Met Met Lys Glu Asn Val Ala Phe Glu Gln Glu Lys Glu Gly Lys Ser Asn Glu Lys Asn Asp Phe Thr Lys Phe Lys Thr Glu Gln Glu Asn Glu Ala Lys Cys Arg Asn Ser Lys Pro Gly Lys Lys Asn Asp Phe Glu Gln Gly Glu Leu Tyr Leu Arg Glu Lys Phe Glu Asn Ser Ile Glu Ser Leu Arg Leu Phe Lys Asn Asp Pro Leu Phe Phe 315 Lys Pro Gly Ser Gln Phe Leu Tyr Ser Thr Phe Gly Tyr Thr Leu Leu Ala Ala Ile Val Glu Arg Ala Ser Gly Cys Lys Tyr Leu Asp 335 345 Tyr Met Gln Lys Ile Phe His Asp Leu Asp Met Leu Thr Thr Val 350 Gln Glu Glu Asn Glu Pro Val Ile Tyr Asn Arg Ala Arg 365

<210> 367

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<211> 30
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-30
<223> Synthetic construct.
<400> 367
tggaaaagaa gtctggtcag aaggtttagg 30
<210> 368
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.
<400> 368
catttggctt cattctcctg ctctg 25
<210> 369
<211> 28
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-28
<223> Synthetic construct.
<400> 369
 aaaacctcag aacaactcat tttgcacc 28
<210> 370
<211> 41
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-41
<223> Synthetic construct.
<400> 370
 gtctcaccat ggttgctctt gccaaattgt gggaagcagg g 41
<210> 371
<211> 1150
<212> DNA
<213> Homo sapiens
<400> 371
 gtgacactat agaagagcta tgacgtcgca tgcacgcgta cgtaagctcg 50
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gaattcggct cgaggctggt gggaagaagc cgagatggcg gcagccagcg 100 ctggggcaac ccggctgctc ctgctcttgc tgatggcggt agcagcgccc 150 agtegageee ggggeagegg etgeegggee gggaetggtg egegagggge 200 tggggcggaa ggtcgagagg gcgaggcctg tggcacggtg gggctgctgc 250 tgqaqcactc atttqaqatc gatgacagtg ccaacttccg gaagcggggc 300 tcactgctct ggaaccagca ggatggtacc ttgtccctgt cacagcggca 350 gctcagcgag gaggagcggg gccgactccg ggatgtggca gccctgaatg 400 gcctgtaccg ggtccggatc ccaaggcgac ccggggccct ggatggcctg 450 gaagetggtg getatgtete eteetttgte eetgegtget eeetggtgga 500 gtcgcacctg tcggaccagc tgaccctgca cgtggatgtg gccggcaacg 550 tggtgggcgt gtcggtggtg acgcaccccg ggggctgccg gggccatgag 600 gtggaggacg tggacctgga gctgttcaac acctcggtgc agctgcagcc 650 gcccaccaca gccccaggcc ctgagacggc ggccttcatt gagcgcctgg 700 agatggaaca ggcccagaag gccaagaacc cccaggagca gaagtccttc 750 ttcgccaaat actggatgta catcattccc gtcgtcctgt tcctcatgat 800 gtcaggagcg ccagacaccg ggggccaggg tgggggtggg ggtgggggtg 850 gtggtggggg tagtggcctt tgctgtgtgc caccctccct gtaagtctat 900 ttaaaaacat cgacgataca ttgaaatgtg tgaacgtttt gaaaagctac 950 agettecage agecaaaage aactgttgtt ttggcaagac ggteetgatg 1000 tacaagettq attgaaattc actgeteact tgatacgtta ttcagaaacc 1050 caaggaatgg ctgtccccat cctcatgtgg ctgtgtggag ctcagctgtg 1100 ttgtgtggca gtttattaaa ctgtccccca gatcgacacg caaaaaaaaa 1150

<sup>&</sup>lt;210> 372

<sup>&</sup>lt;211> 269

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 372

Met Ala Ala Ala Ser Ala Gly Ala Thr Arg Leu Leu Leu Leu  $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$ 

Leu Met Ala Val Ala Ala Pro Ser Arg Ala Arg Gly Ser Gly Cys
20 25 30

Arg Ala Gly Thr Gly Ala Arg Gly Ala Gly Ala Glu Gly Arg Glu 35 40 45

```
Gly Glu Ala Cys Gly Thr Val Gly Leu Leu Leu Glu His Ser Phe
Glu Ile Asp Asp Ser Ala Asn Phe Arg Lys Arg Gly Ser Leu Leu
                                     70
Trp Asn Gln Gln Asp Gly Thr Leu Ser Leu Ser Gln Arg Gln Leu
Ser Glu Glu Glu Arg Gly Arg Leu Arg Asp Val Ala Ala Leu Asn
Gly Leu Tyr Arg Val Arg Ile Pro Arg Arg Pro Gly Ala Leu Asp
Gly Leu Glu Ala Gly Gly Tyr Val Ser Ser Phe Val Pro Ala Cys
Ser Leu Val Glu Ser His Leu Ser Asp Gln Leu Thr Leu His Val
Asp Val Ala Gly Asn Val Val Gly Val Ser Val Val Thr His Pro
                155
Gly Gly Cys Arg Gly His Glu Val Glu Asp Val Asp Leu Glu Leu
                                    175
                170
Phe Asn Thr Ser Val Gln Leu Gln Pro Pro Thr Thr Ala Pro Gly
                185
Pro Glu Thr Ala Ala Phe Ile Glu Arg Leu Glu Met Glu Gln Ala
                200
                                    205
Gln Lys Ala Lys Asn Pro Gln Glu Gln Lys Ser Phe Phe Ala Lys
Tyr Trp Met Tyr Ile Ile Pro Val Val Leu Phe Leu Met Met Ser
Gly Ala Pro Asp Thr Gly Gly Gln Gly Gly Gly Gly Gly Gly
Gly Gly Gly Ser Gly Leu Cys Cys Val Pro Pro Ser Leu
```

260

<sup>&</sup>lt;210> 373

<sup>&</sup>lt;211> 1706

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 373

ggagcgctgc tggaacccga gccggagccg gagccacagc ggggagggtg 50 gcctggcggc ctggagccgg acgtgtccgg ggcgtccccg cagaccgggg 100 cagcaggtcg tccgggggcc caccatgctg gtgactgcct accttgcttt 150 tgtaggcctc ctgqcctcct gcctggggct ggaactgtca agatgccggg 200

ctaaaccccc tggaagggcc tgcagcaatc cctccttcct tcggtttcaa 250 ctggacttct atcaggtcta cttcctggcc ctggcagctg attggcttca 300 ggccccctac ctctataaac tctaccagca ttactacttc ctggaaggtc 350 aaattgccat cctctatgtc tgtggccttg cctctacagt cctctttggc 400 ctagtggcct cctcccttgt ggattggctg ggtcgcaaga attcttgtgt 450 cctcttctcc ctgacttact cactatgctg cttaaccaaa ctctctcaag 500 actactttgt gctgctagtg gggcgagcac ttggtgggct gtccacagcc 550 ctgctcttct cagccttcga ggcctggtat atccatgagc acgtggaacg 600 gcatgacttc cctgctgagt ggatcccagc tacctttgct cgagctgcct 650 totggaacca tgtgctggct gtagtggcag gtgtggcagc tgaggctgta 700 gccagctgga tagggctggg gcctgtagcg ccctttgtgg ctgccatccc 750 tctcctggct ctggcagggg ccttggccct tcgaaactgg ggggagaact 800 atgaccggca gcgtgccttc tcaaggacct gtgctggagg cctgcgctgc 850 ctcctgtcgg accgccgcgt gctgctgctg ggcaccatac aagctctatt 900 tgagagtgtc atcttcatct ttgtcttcct ctggacacct gtgctggacc 950 cacacggggc ccctctgggc attatcttct ccagcttcat ggcagccagc 1000 ctgcttggct cttccctgta ccgtatcgcc acctccaaga ggtaccacct 1050 tcagcccatg cacctgctgt cccttgctgt gctcatcgtc gtcttctctc 1100 tottcatgtt gactttctct accageceag geeaggagag teeggtggag 1150 teetteatag cetttetaet tattgagttg gettgtggat tataetttee 1200 cagcatgage ttectaegga gaaaggtgat eeetgagaea gageaggetg 1250 gtgtactcaa ctggttccgg gtacctctgc actcactggc ttgcctaggg 1300 ctccttgtcc tccatgacag tgatcgaaaa acaggcactc ggaatatgtt 1350 cagcatttgc tctgctgtca tggtgatggc tctgctggca gtggtgggac 1400 tcttcaccgt ggtaaggcat gatgctgagc tgcgggtacc ttcacctact 1450 gaggagccct atgcccctga gctgtaaccc cactccagga caagatagct 1500 gggacagact cttgaattcc agctatccgg gattgtacag atctctctgt 1550 gactgacttt gtgactgtcc tgtggtttct cctgccattg ctttgtgttt 1600 gggaggacat gatgggggtg atggactgga aagaaggtgc caaaagttcc 1650 ctctgtgtta ctcccattta gaaaataaac acttttaaat gatcaaaaaa 1700 aaaaaa 1706

<210> 374

<211> 450

<212> PRT

<213> Homo sapiens

<400> 374

Met Leu Val Thr Ala Tyr Leu Ala Phe Val Gly Leu Leu Ala Ser 1 5 10 15

Cys Leu Gly Leu Glu Leu Ser Arg Cys Arg Ala Lys Pro Pro Gly 20 25 30

Arg Ala Cys Ser Asn Pro Ser Phe Leu Arg Phe Gln Leu Asp Phe 35 40 45

Tyr Gln Val Tyr Phe Leu Ala Leu Ala Ala Asp Trp Leu Gln Ala 50 55 60

Pro Tyr Leu Tyr Lys Leu Tyr Gln His Tyr Tyr Phe Leu Glu Gly
65 70 75

Gln Ile Ala Ile Leu Tyr Val Cys Gly Leu Ala Ser Thr Val Leu 80 85 90

Phe Gly Leu Val Ala Ser Ser Leu Val Asp Trp Leu Gly Arg Lys 95 100 105

Asn Ser Cys Val Leu Phe Ser Leu Thr Tyr Ser Leu Cys Cys Leu 110 115 120

Thr Lys Leu Ser Gln Asp Tyr Phe Val Leu Leu Val Gly Arg Ala 125 130 135

Leu Gly Gly Leu Ser Thr Ala Leu Leu Phe Ser Ala Phe Glu Ala 140 145 150

Trp Tyr Ile His Glu His Val Glu Arg His Asp Phe Pro Ala Glu 155 160 165

Trp Ile Pro Ala Thr Phe Ala Arg Ala Ala Phe Trp Asn His Val 170 175 180

Leu Ala Val Val Ala Gly Val Ala Ala Glu Ala Val Ala Ser Trp
185 190 195

Ile Gly Leu Gly Pro Val Ala Pro Phe Val Ala Ala Ile Pro Leu  $200 \hspace{1.5cm} 205 \hspace{1.5cm} 210 \hspace{1.5cm}$ 

Leu Ala Leu Ala Gly Ala Leu Ala Leu Arg Asn Trp Gly Glu Asn 215 220 225

Tyr Asp Arg Gln Arg Ala Phe Ser Arg Thr Cys Ala Gly Gly Leu 230 235 240

```
Arg Cys Leu Leu Ser Asp Arg Arg Val Leu Leu Gly Thr Ile
                                    250
Gln Ala Leu Phe Glu Ser Val Ile Phe Ile Phe Val Phe Leu Trp
                                                         270
Thr Pro Val Leu Asp Pro His Gly Ala Pro Leu Gly Ile Ile Phe
Ser Ser Phe Met Ala Ala Ser Leu Leu Gly Ser Ser Leu Tyr Arg
Ile Ala Thr Ser Lys Arg Tyr His Leu Gln Pro Met His Leu Leu
Ser Leu Ala Val Leu Ile Val Val Phe Ser Leu Phe Met Leu Thr
Phe Ser Thr Ser Pro Gly Gln Glu Ser Pro Val Glu Ser Phe Ile
                335
                                    340
Ala Phe Leu Leu Ile Glu Leu Ala Cys Gly Leu Tyr Phe Pro Ser
                                    355
                350
Met Ser Phe Leu Arg Arg Lys Val Ile Pro Glu Thr Glu Gln Ala
                365
Gly Val Leu Asn Trp Phe Arg Val Pro Leu His Ser Leu Ala Cys
                380
Leu Gly Leu Leu Val Leu His Asp Ser Asp Arg Lys Thr Gly Thr
                395
                                     400
Arg Asn Met Phe Ser Ile Cys Ser Ala Val Met Val Met Ala Leu
                410
                                     415
Leu Ala Val Val Gly Leu Phe Thr Val Val Arg His Asp Ala Glu
                                     430
                425
Leu Arg Val Pro Ser Pro Thr Glu Glu Pro Tyr Ala Pro Glu Leu
                                     445
                440
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<210> 375

<211> 1098

<212> DNA

<213> Artificial

<400> 375

ccttgtcccc gctgaacctc cagaggcctg cggggaactc agcaacggtt 300 tcttcatcca ggaccagatt gctctggtgg agagggggg ctgctccttc 350 ctctccaaga ctcgggtggt ccaggagcac ggcgggcggg cggtgatcat 400 ctctgacaac gcagttgaca atgacagctt ctacgtggag atgatccagg 450 acagtaccca gegeacaget gacateceeg ceetetteet geteggeega 500 gacggctaca tgatccgccg ctctctggaa cagcatgggc tgccatgggc 550 catcatttcc atcccagtca atgtcaccag catccccacc tttgagctgc 600 tgcaaccgcc ctggaccttc tggtagaaga gtttgtccca cattccagcc 650 ataagtgact ctgagctggg aaggggaaac ccaggaattt tgctacttgg 700 aatttggaga tagcatctgg ggacaagtgg agccaggtag aggaaaaggg 750 cccagggccc ccaagggtgt ctcatgctac aagaagaggc aagagacagg 850 ccccagggct tctggctaga acccgaaaca aaaggagctg aaggcaggtg 900 gcctgagagc catctgtgac ctgtcacact cacctggctc cagcctcccc 950 tacccagggt ctctgcacag tgaccttcac agcagttgtt ggagtggttt 1000 aaagagctgg tgtttgggga ctcaataaac cctcactgac tttttagcaa 1050 taaagcttct catcagggtt gcaaaaaaaa aaaaaaaaa aaaaaaaa 1098

<210> 376

<211> 188

<212> PRT

<213> Homo sapiens

<400> 376

Met Val Pro Gly Ala Ala Gly Trp Cys Cys Leu Val Leu Trp Leu 1 5 10 15

Pro Ala Cys Val Ala Ala His Gly Phe Arg Ile His Asp Tyr Leu 20 25 30

Tyr Phe Gln Val Leu Ser Pro Gly Asp Ile Arg Tyr Ile Phe Thr 35 40 45

Ala Thr Pro Ala Lys Asp Phe Gly Gly Ile Phe His Thr Arg Tyr 50 55 60

Glu Gln Ile His Leu Val Pro Ala Glu Pro Pro Glu Ala Cys Gly
65 70 75

Glu Leu Ser Asn Gly Phe Phe Ile Gln Asp Gln Ile Ala Leu Val $80\,$   $85\,$  90

```
Glu Arg Gly Gly Cys Ser Phe Leu Ser Lys Thr Arg Val Val Gln
Glu His Gly Gly Arg Ala Val Ile Ile Ser Asp Asn Ala Val Asp
                                 115
Asn Asp Ser Phe Tyr Val Glu Met Ile Gln Asp Ser Thr Gln Arg
Thr Ala Asp Ile Pro Ala Leu Phe Leu Leu Gly Arg Asp Gly Tyr
Met Ile Arg Arg Ser Leu Glu Gln His Gly Leu Pro Trp Ala Ile
Ile Ser Ile Pro Val Asn Val Thr Ser Ile Pro Thr Phe Glu Leu
Leu Gln Pro Pro Trp Thr Phe Trp
               185
<210> 377
<211> 496
<212> DNA
<213> Artificial
<220>
<221> unsure
<222> 396
<223> unknown base
<400> 377
tctqcctcca ctqctctqtq ctqqqatcat qqaacttqca ctqctqtqtg 50
ggctggtggt gatggctggt gtgattccaa tccagggcgg gatcctgaac 100
ctgaacaaga tggtcaagca agtgactggg aaaatgccca tcctctccta 150
ctggccctac ggctgtcact gcggactagg tggcagaggc caacccaaag 200
atgccacgga ctggtgctgc cagacccatg actgctgcta tgaccacctg 250
 aagacccagg ggtgcggcat ctacaaggac aacaacaaaa gcagcataca 300
ttgtatggat ttatctcaac gctattgttt aatggctgtg tttaatgtga 350
tctatctgga aaatgaggac tccgaataaa aagctattac tawttnaaaa 400
 <210> 378
<211> 116
<212> PRT
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<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 378

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Met Glu Leu Ala Leu Leu Cys Gly Leu Val Val Met Ala Gly Val
 Ile Pro Ile Gln Gly Gly Ile Leu Asn Leu Asn Lys Met Val Lys
 Gln Val Thr Gly Lys Met Pro Ile Leu Ser Tyr Trp Pro Tyr Gly
 Cys His Cys Gly Leu Gly Gly Arg Gly Gln Pro Lys Asp Ala Thr
Asp Trp Cys Cys Gln Thr His Asp Cys Cys Tyr Asp His Leu Lys
 Thr Gln Gly Cys Gly Ile Tyr Lys Asp Asn Asn Lys Ser Ser Ile
His Cys Met Asp Leu Ser Gln Arg Tyr Cys Leu Met Ala Val Phe
Asn Val Ile Tyr Leu Glu Asn Glu Asp Ser Glu
                 110
<210> 379
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 379
ctgcctccac tgctctgtgc tggg 24
<210> 380
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 380
cagagcagtg gatgttcccc tggg 24
<210> 381
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
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<223> Synthetic construct.
<400> 381
ctgaacaaga tggtcaagca agtgactggg aaaatgccca tcctc 45
<210> 382
<211> 764
<212> DNA
<213> Homo sapiens
<400> 382
 ctcgcttctt ccttctggat gggggcccag ggggcccagg agagtataaa 50
 ggcgatgtgg agggtgcccg gcacaaccag acgcccagtc acaggcgaga 100
 gccctgggat gcaccggcca gaggccatgc tgctgctgct cacgcttgcc 150
 ctcctggggg gccccacctg ggcagggaag atgtatggcc ctggaggagg 200
 caagtatttc agcaccactg aagactacga ccatgaaatc acagggctgc 250
 gggtgtctgt aggtcttctc ctggtgaaaa gtgtccaggt gaaacttgga 300
 gactcctggg acgtgaaact gggagcctta ggtgggaata cccaggaagt 350
 caccetgeag ceaggegaat acateacaaa agtetttgte geetteeaag 400
ctttcctccg gggtatggtc atgtacacca gcaaggaccg ctatttctat 450
tttgggaagc ttgatggcca gatctcctct gcctacccca gccaagaggg 500
gcaggtgctg gtgggcatct atggccagta tcaactcctt ggcatcaaga 550
gcattggctt tgaatggaat tatccactag aggagccgac cactgagcca 600
ccagttaatc tcacatactc agcaaactca cccgtgggtc gctagggtgg 650
ggtatggggc catccgagct gaggccatct gtgtggtggt ggctgatggt 700
actggagtaa ctgagtcggg acgctgaatc tgaatccacc aataaataaa 750
gcttctgcag aaaa 764
<210> 383
<211> 178
<212> PRT
<213> Homo sapiens
<400> 383
Met His Arg Pro Glu Ala Met Leu Leu Leu Thr Leu Ala Leu
Leu Gly Gly Pro Thr Trp Ala Gly Lys Met Tyr Gly Pro Gly Gly
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20

35

40

Gly Lys Tyr Phe Ser Thr Thr Glu Asp Tyr Asp His Glu Ile Thr

30

```
Gly Leu Arg Val Ser Val Gly Leu Leu Leu Leu Val Lys Ser Val Gln 60

Val Lys Leu Gly Asp 65

Ser Trp Asp Val Lys Leu Gly Ala Leu Gly 75

Gly Asn Thr Gln Glu 80

Lys Val Phe Val Ala Phe Gln Ala Phe Leu Arg Gly Met Val Met 105

Tyr Thr Ser Lys Asp 110

Arg Tyr Phe Tyr Phe Gly 115

Gly Ile Tyr Gly Gln Tyr Gln Leu Clu Gly 130

Gly Ile Tyr Gly Gln Tyr Gln Leu Leu Gly 145

Phe Glu Trp Asn Tyr Pro Leu Glu Glu Pro 160

Tyr Glu Trp Asn Tyr Pro Leu Glu Glu Pro Thr Thr Glu Pro Pro 165
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Val Asn Leu Thr Tyr Ser Ala Asn Ser Pro Val Gly Arg 170 175

<210> 384

<211> 2379

<212> DNA

<213> Homo sapiens

<400> 384

 atctcagaaa ttacaggaga taccctcaag tatatctgct ggttgcttag 700 gtttgtccct tcgctataac agccttcaaa aacttaagta taatcaattt 750 aaagggctca accagctcac ctggctatac cttgaccata accatatcag 800 caatattgac gaaaatgctt ttaatggaat acgcagactc aaagagctga 850 ttcttagttc caatagaatc tcctattttc ttaacaatac cttcagacct 900 gtgacaaatt tacggaactt ggatctgtcc tataatcagc tgcattctct 950 gggatctgaa cagtttcggg gcttgcggaa gctgctgagt ttacatttac 1000 ggtctaactc cctgagaacc atccctgtgc gaatattcca agactgccgc 1050 aacctggaac ttttggacct gggatataac cggatccgaa gtttagccag 1100 gaatgtcttt gctggcatga tcagactcaa agaacttcac ctggagcaca 1150 atcaattttc caagctcaac ctggcccttt ttccaaggtt ggtcagcctt 1200 cagaaccttt acttgcagtg gaataaaatc agtgtcatag gacagaccat 1250 gtcctggacc tggagctcct tacaaaggct tgatttatca ggcaatgaga 1300 togaagettt cagtggacce agtgttttcc agtgtgtccc gaatctgcag 1350 cgcctcaacc tggattccaa caagctcaca tttattggtc aagagatttt 1400 ggattcttgg atatccctca atgacatcag tcttgctggg aatatatggg 1450 aatgcagcag aaatatttgc toocttgtaa actggctgaa aagttttaaa 1500 ggtctaaggg agaatacaat tatctgtgcc agtcccaaag agctgcaagg 1550 agtaaatgtg atcgatgcag tgaagaacta cagcatctgt ggcaaaagta 1600 ctacagagag gtttgatctg gccagggctc tcccaaagcc gacgtttaag 1650 cccaagetee ecaggeegaa geatgagage aaaceeett tgeeeeegae 1700 ggtgggagcc acagagcccg gcccagagac cgatgctgac gccgagcaca 1750 tctctttcca taaaatcatc gcgggcagcg tggcgctttt cctgtccgtg 1800 ctcgtcatcc tgctggttat ctacgtgtca tggaagcggt accctgcgag 1850 catgaagcag ctgcagcagc gctccctcat gcgaaggcac aggaaaaaga 1900 aaagacagto ootaaagcaa atgactooca gcacccagga attttatgta 1950 gattataaac ccaccaacac ggagaccagc gagatgctgc tgaatgggac 2000 gggaccctgc acctataaca aatcgggctc cagggagtgt gaggtatgaa 2050 ccattgtgat aaaaagagct cttaaaagct gggaaataag tggtgcttta 2100

ttgaactctg gtgactatca agggaacgcg atgcccccc tccccttccc 2150 tctccctctc actttggtgg caagatcctt ccttgtccgt tttagtgcat 2200 tcataatact ggtcattttc ctctcataca taatcaaccc attgaaattt 2250 aaataccaca atcaatgtga agcttgaact ccggtttaat ataataccta 2300 ttgtataaga ccctttactg attccattaa tgtcgcattt gttttaagat 2350 aaaacttctt tcataggtaa aaaaaaaaa 2379

<210> 385

<211> 513

<212> PRT

<213> Homo sapiens

<400> 385

Met Gly Phe Asn Val Ile Arg Leu Leu Ser Gly Ser Ala Val Ala 1 5 10 15

Leu Val Ile Ala Pro Thr Val Leu Leu Thr Met Leu Ser Ser Ala 20 25 30

Glu Arg Gly Cys Pro Lys Gly Cys Arg Cys Glu Gly Lys Met Val 35 40 45

Tyr Cys Glu Ser Gln Lys Leu Gln Glu Ile Pro Ser Ser Ile Ser 50 55 60

Ala Gly Cys Leu Gly Leu Ser Leu Arg Tyr Asn Ser Leu Gln Lys
65 70 75

Tyr Leu Asp His Asn His Ile Ser Asn Ile Asp Glu Asn Ala Phe 95 100 105

Asn Gly Ile Arg Arg Leu Lys Glu Leu Ile Leu Ser Ser Asn Arg 110 115 120

Ile Ser Tyr Phe Leu Asn Asn Thr Phe Arg Pro Val Thr Asn Leu 125 130 135

Arg Asn Leu Asp Leu Ser Tyr Asn Gln Leu His Ser Leu Gly Ser 140 145

Glu Gln Phe Arg Gly Leu Arg Lys Leu Leu Ser Leu His Leu Arg 155 160 165

Ser Asn Ser Leu Arg Thr Ile Pro Val Arg Ile Phe Gln Asp Cys 170 175 180

Arg Asn Leu Glu Leu Leu Asp Leu Gly Tyr Asn Arg Ile Arg Ser 185 190 195

Leu Ala Arg Asn Val Phe Ala Gly Met Ile Arg Leu Lys Glu Leu

		200					205					210
His Leu G	lu His	Asn 215	Gln	Phe	Ser	Lys	Leu 220	Asn	Leu	Ala	Leu	Phe 225
Pro Arg Le	eu Val	Ser 230	Leu	Gln	Asn	Leu	Tyr 235	Leu	Gln	Trp	Asn	Lys 240
Ile Ser Va	al Ile	Gly 245	Gln	Thr	Met	Ser	Trp 250	Thr	Trp	Ser	Ser	Leu 255
Gln Arg L	eu Asp	Leu 260	Ser	Gly	Asn	Glu	Ile 265	Glu	Ala	Phe	Ser	Gly 270
Pro Ser V	al Phe	Gln 275	Cys	Val	Pro	Asn	Leu 280	Gln	Arg	Leu	Asn	Leu 285
Asp Ser A	sn Lys	Leu 290	Thr	Phe	Ile	Gly	Gln 295	Glu	Ile	Leu	Asp	Ser 300
Trp Ile S	er Leu	Asn 305	Asp	Ile	Ser	Leu	Ala 310	Gly	Asn	Ile	Trp	Glu 315
Cys Ser A	rg Asn	Ile 320	Cys	Ser	Leu	Val	Asn 325	Trp	Leu	Lys	Ser	Phe 330
Lys Gly L	eu Arg	Glu 335	Asn	Thr	Ile	Ile	Cys 340	Ala	Ser	Pro	Lys	Glu 345
Leu Gln G	ly Val	Asn 350	Val	Ile	Asp	Ala	Val 355	Lys	Asn	Tyr	Ser	Ile 360
Cys Gly L	ys Ser	Thr 365	Thr	Glu	Arg	Phe	Asp 370	Leu	Ala	Arg	Ala	Leu 375
Pro Lys P	ro Thr	Phe 380	Lys	Pro	Lys	Leu	Pro 385	Arg	Pro	Lys	His	Glu 390
Ser Lys P	ro Pro	Leu 395	Pro	Pro	Thr	Val	Gly 400	Ala	Thr	Glu	Pro	Gly 405
Pro Glu T	hr Asp	Ala 410	Asp	Ala	Glu	His	Ile 415	Ser	Phe	His	Lys	Ile 420
Ile Ala G	ly Ser	Val 425	Ala	Leu	Phe	Leu	Ser 430	Val	Leu	Val	Ile	Leu 435
Leu Val I	le Tyr	Val 440	Ser	Trp	Lys	Arg	Tyr 445	Pro	Ala	Ser	Met	Lys 450
Gln Leu G	ln Gln	Arg 455	Ser	Leu	Met	Arg	Arg 460	His	Arg	Lys	Lys	Lys 465
Arg Gln S	er Leu	Lys 470	Gln	Met	Thr	Pro	Ser 475	Thr	Gln	Glu	Phe	Tyr 480
Val Asp T	yr Lys	Pro 485	Thr	Asn	Thr	Glu	Thr 490	Ser	Glu	Met	Leu	Leu 495

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505
 Cys Glu Val
<210> 386
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 386
ctgggatctg aacagtttcg gggc 24
<210> 387
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 387
ggtccccagg acatggtctg tccc 24
<210> 388
<211> 48
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-48
<223> Synthetic construct.
<400> 388
 gctgagttta catttacggt ctaactccct gagaaccatc cctgtgcg 48
<210> 389
<211> 1449
<212> DNA
<213> Homo sapiens
<400> 389
 agttctgaga aagaaggaaa taaacacagg caccaaacca ctatcctaag 50
 ttgactgtcc tttaaatatg tcaagatcca gacttttcag tgtcacctca 100
 gcgatctcaa cgatagggat cttgtgtttg ccgctattcc agttggtgct 150
 ctcggaccta ccatgcgaag aagatgaaat gtgtgtaaat tataatgacc 200
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Asn Gly Thr Gly Pro Cys Thr Tyr Asn Lys Ser Gly Ser Arg Glu

aacaccctaa tggctggtat atctggatcc tcctgctgct ggttttggtg 250 gcagctcttc tctgtggagc tgtggtcctc tgcctccagt gctggctgag 300 gagaccccga attgattctc acaggcgcac catggcagtt tttgctgttg 350 gagacttgga ctctatttat gggacagaag cagctgtgag tccaactgtt 400 ggaattcacc ttcaaactca aacccctgac ctatatcctg ttcctgctcc 450 atgttttggc cctttaggct ccccacctcc atatgaagaa attgtaaaaa 500 caacctgatt ttaggtgtgg attatcaatt taaagtatta acgacatctg 550 taattccaaa acatcaaatt taggaatagt tatttcagtt gttggaaatg 600 tccagagatc tattcatata gtctgaggaa ggacaattcg acaaaagaat 650 ggatgttgga aaaaattttg gtcatggaga tgtttaaata gtaaagtagc 700 aggettttga tgtgtcactg ctgtatcata cttttatgct acacaaccaa 750 attaatqctt ctccactaqt atccaaacag gcaacaatta ggtgctggaa 800 gtagtttcca tcacatttag gactccactg cagtatacag cacaccattt 850 tctgctttaa actctttcct agcatggggt ccataaaaat tattataatt 900 taacaatago ccaagoogag aatocaacat gtocagaaco agaaccagaa 950 agatagtatt tgaatgaagg tgaggggaga gagtaggaaa aagaaaagtt 1000 tggagttgaa gggtaaagga taaatgaaga ggaaaaggaa aagattacaa 1050 gtctcagcaa aaacaagagg ttttatgccc caacctgaag aggaagaaat 1100 tgtagataga aggtgaagga gattgctgaa gatatagagc acatataatg 1150 ccaacacggg gagaaaagaa aatttcccct tttacagtaa tgaatgtggc 1200 ctccatagtc catagtgttt ctctggagcc tcagggcttg gcatttattg 1250 cagcatcatg ctaagaacct tcggcatagg tatctgttcc catgaggact 1300 gcagaagtag caatgagaca tetteaagtg geattttgge agtggeeate 1350 agcaggggga cagacaaaaa catccatcac agatgacata tgatcttcag 1400 ctgacaaatt tgttgaacaa aacaataaac atcaatagat atctaaaaa 1449

<sup>&</sup>lt;210> 390

<sup>&</sup>lt;211> 146

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 390

Met Ser Arg Ser Arg Leu Phe Ser Val Thr Ser Ala Ile Ser Thr
1 5 10 15

```
Ile Gly Ile Leu Cys Leu Pro Leu Phe Gln Leu Val Leu Ser Asp
 Leu Pro Cys Glu Glu Asp Glu Met Cys Val Asn Tyr Asn Asp Gln
 His Pro Asn Gly Trp Tyr Ile Trp Ile Leu Leu Leu Val Leu
 Val Ala Ala Leu Cys Gly Ala Val Val Leu Cys Leu Gln Cys
 Trp Leu Arg Arg Pro Arg Ile Asp Ser His Arg Arg Thr Met Ala
 Val Phe Ala Val Gly Asp Leu Asp Ser Ile Tyr Gly Thr Glu Ala
 Ala Val Ser Pro Thr Val Gly Ile His Leu Gln Thr Gln Thr Pro
                                     115
 Asp Leu Tyr Pro Val Pro Ala Pro Cys Phe Gly Pro Leu Gly Ser
 Pro Pro Pro Tyr Glu Glu Ile Val Lys Thr Thr
<210> 391
<211> 26
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-26
<223> Synthetic construct.
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<210> 392
<211> 23
<212> DNA
<213> Artificial
<220>
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<222> 1-23
<223> Synthetic construct.
<400> 392
ccaaaacatq qaqcaqqaac aqq 23
<210> 393
<211> 47
<212> DNA
<213> Artificial
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aatgctgtac tatgtcctta aagagaattt ggtaacttgg ttgatgtggt 1100

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<sup>&</sup>lt;210> 395

<sup>&</sup>lt;211> 140

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 395

Met Phe Phe Thr Ile Ser Arg Lys Asn Met Ser Gln Lys Leu Ser  $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$ 

Leu Leu Leu Val Phe Gly Leu Ile Trp Gly Leu Met Leu Leu 20 25 30

His Tyr Thr Phe Gln Gln Pro Arg His Gln Ser Ser Val Lys Leu
35 40 45

Arg Glu Gln Ile Leu Asp Leu Ser Lys Arg Tyr Val Lys Ala Leu
50 55 60

Ala Glu Glu Asn Lys Asn Thr Val Asp Val Glu Asn Gly Ala Ser
65 70 75

Met Ala Gly Tyr Ala Asp Leu Lys Arg Thr Ile Ala Val Leu Leu 80 85 90

Asp Asp Ile Leu Gln Arg Leu Val Lys Leu Glu Asn Lys Val Asp 95 100 105

Tyr Ile Val Val Asn Gly Ser Ala Ala Asn Thr Thr Asn Gly Thr 110 115 120

Ser Gly Asn Leu Val Pro Val Thr Thr Asn Lys Arg Thr Asn Val \$125\$

Ser Gly Ser Ile Arg 140

<210> 396

<211> 2639

<212> DNA

<213> Homo sapiens

<400> 396

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cctgggcccc cacatcatgc cggtgcccat ccctctggac acagcccact 250
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<210> 397 <211> 353

<212> PRT

<213> Homo sapiens

<400> 397

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Thr Thr Arg Pro Cys Phe Pro Gly Cys Gln Cys Glu Val Glu Thr 20 25 30

Phe Gly Leu Phe Asp Ser Phe Ser Leu Thr Arg Val Asp Cys Ser 35 40 45

Gly Leu Gly Pro His Ile Met Pro Val Pro Ile Pro Leu Asp Thr 50 55 60

Ala His Leu Asp Leu Ser Ser Asn Arg Leu Glu Met Val Asn Glu 65 70 75

Leu Ser His Asn Leu Leu Thr Ser Ile Ser Pro Thr Ala Phe Ser 95 100 105

Arg Leu Arg Tyr Leu Glu Ser Leu Asp Leu Ser His Asn Gly Leu
110 115 120

Thr Ala Leu Pro Ala Glu Ser Phe Thr Ser Ser Pro Leu Ser Asp 125 130 135

Val Asn Leu Ser His Asn Gln Leu Arg Glu Val Ser Val Ser Ala 140 145 150

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Phe Thr Thr His Ser Gln Gly Arg Ala Leu His Val Asp Leu Ser
 His Asn Leu Ile His Arg Leu Val Pro His Pro Thr Arg Ala Gly
                 170
                                     175
 Leu Pro Ala Pro Thr Ile Gln Ser Leu Asn Leu Ala Trp Asn Arg
                                     190
 Leu His Ala Val Pro Asn Leu Arg Asp Leu Pro Leu Arg Tyr Leu
 Ser Leu Asp Gly Asn Pro Leu Ala Val Ile Gly Pro Gly Ala Phe
 Ala Gly Leu Gly Gly Leu Thr His Leu Ser Leu Ala Ser Leu Gln
 Arg Leu Pro Glu Leu Ala Pro Ser Gly Phe Arg Glu Leu Pro Gly
 Leu Gln Val Leu Asp Leu Ser Gly Asn Pro Lys Leu Asn Trp Ala
 Gly Ala Glu Val Phe Ser Gly Leu Ser Ser Leu Gln Glu Leu Asp
 Leu Ser Gly Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu Leu
 His Leu Pro Ala Leu Gln Ser Val Ser Val Gly Gln Asp Val Arg
 Cys Arg Arg Leu Val Arg Glu Gly Thr Tyr Pro Arg Arg Pro Gly
 Ser Ser Pro Lys Val Pro Leu His Cys Val Asp Thr Arg Glu Ser
 Ala Ala Arg Gly Pro Thr Ile Leu
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<210> 398
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<212> DNA
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<222> 1-23

<223> Synthetic construct.

<400> 398

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<210> 399

<211> 23

<212> DNA

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<222> 1-23
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<400> 399
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<222> 1-44
<223> Synthetic construct.
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<211> 1571
<212> DNA
<213> Homo sapiens
<400> 401
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<210> 402

<211> 261

<212> PRT

<213> Homo sapiens

<400> 402

Met Arg Gln Phe Pro Lys Thr Ser Phe Asp Ile Ser Pro Glu Met 1 5 10 15

Ser Phe Ser Ile Tyr Ser Leu Gln Val Pro Ala Val Pro Gly Leu 20 25 30

Thr Cys Trp Ala Leu Thr Ala Glu Pro Gly Trp Gly Gln Asn Lys 35 40 45

Gly Ala Thr Thr Cys Ala Thr Asn Ser His Ser Asp Ser Glu Leu
50 55 60

Arg Pro Glu Ile Phe Ser Ser Arg Glu Ala Trp Gln Phe Phe Leu 65 70 75

Leu Leu Trp Ser Pro Asp Phe Arg Pro Lys Met Lys Ala Ser Ser 80 85 90

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Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr Leu Leu Trp Thr
 Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser Cys Val Ile
 Ala Thr Asn Leu Gln Glu Ile Arq Asn Gly Phe Ser Glu Ile Arq
 Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asp Ile Arg Ile Leu
 Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg Cys
 Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe
 Lys Asn Tyr Gln Thr Pro Asp His Tyr Thr Leu Arg Lys Ile Ser
                 185
                                     190
 Ser Leu Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu
 Ser His Ala His Met Thr Cys His Cys Gly Glu Glu Ala Met Lys
 Lys Tyr Ser Gln Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln
                                     235
 Ala Ala Val Val Lys Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln
                                     250
 Trp Met Glu Glu Thr Glu
<210> 403
<211> 28
<212> DNA
<213> Artificial
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<221> Artificial Sequence
<222> 1-28
<223> Synthetic construct.
<400> 403
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<210> 404
<211> 26
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<222> 1-26
<223> Synthetic construct.
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<400> 404
 agtcctcctt aagattctga tgtcaa 26
<210> 405
<211> 998
<212> DNA
<213> Homo sapiens
<400> 405
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 tcacaaaaac tcgactccaa atgcaaggaq aagcagctct tgctcggttg 200
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 cctagggatc attgaagagg aaggctttct aaagctttgg caaggagtga 300
 caccegecat ttacagacae gtagtgtatt etggaggteg aatggteaca 350
 tatgaacatc tccgagaggt tgtgtttggc aaaagtgaag atgagcatta 400
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 cttctattct gggaacacca gccgatgtca tcaaaagcag aataatgaat 800
 caaccacgag ataaacaagg aaggggactt ttgtataaat catcgactga 850
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<210> 406
<211> 323
<212> PRT
<213> Homo sapiens
<400> 406
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305 310 315

Glu Met Ser Gly Val Ser Pro Phe 320

<210> 407

<211> 31

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-31

<223> Synthetic construct.

<400> 407

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<210> 408

<211> 34

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-34

<223> Synthetic construct.

<400> 408

gcggaattct taaaatggac tgactccact catc 34

<210> 409

<211> 1487

<212> DNA

<213> Homo sapiens

<400> 409

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tcctgcgcgc gcgcctgaag tcggcgtggg cgtttgagga agctgggata 100

cagcatttaa tgaaaaattt atgcttaaga agtaaaaatg gcaggcttcc 150

tagataattt tcgttggcca gaatgtgaat gtattgactg gagtgagaga 200

agaaatgctg tggcatctgt tgtcgcaggt atattgtttt ttacaggctg 250

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<210> 410

<211> 158

<212> PRT

<213> Homo sapiens

<400> 410

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Ile Asp Trp Ser Glu Arg Arg Asn Ala Val Ala Ser Val Val Ala 20 25 30

Gly Ile Leu Phe Phe Thr Gly Trp Trp Ile Met Ile Asp Ala Ala

Val Val Tyr Pro Lys Pro Glu Gln Leu Asn His Ala Phe His Thr
50 55 60

Cys Gly Val Phe Ser Thr Leu Ala Phe Phe Met Ile Asn Ala Val 65 70 75

<210> 414

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 Met Phe Gly Ser Leu Ile Ala Ser Met Trp Ile Leu Phe Gly Ala
 Tyr Val Thr Gln Asn Thr Asp Val Tyr Pro Gly Leu Ala Val Phe
 Phe Gln Asn Ala Leu Ile Phe Phe Ser Thr Leu Ile Tyr Lys Phe
 Gly Arg Thr Glu Glu Leu Trp Thr
<210> 411
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-20
<223> Synthetic construct.
<400> 411
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<210> 412
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-20
<223> Synthetic construct.
<400> 412
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<210> 413
<211> 40
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-40
<223> Synthetic construct.
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<211> 1337 <212> DNA <213> Homo sapiens

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<212> PRT
<213> Homo sapiens
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 Ile Val Thr Trp Met Phe Ile Arg Ser Tyr Met Ser Phe Ser
Met Lys Thr Ile Arg Leu Pro Arg Trp Leu Ala Ala Ser Pro Thr
 Lys Glu Ile Gln Val Lys Lys Tyr Lys Cys Gly Leu Ile Lys Pro
 Cys Pro Ala Asn Tyr Phe Ala Phe Lys Ile Cys Ser Gly Ala Ala
Asn Val Val Gly Pro Thr Met Cys Phe Glu Asp Arg Met Ile Met
 Ser Pro Val Lys Asn Asn Val Gly Arg Gly Leu Asn Ile Ala Leu
 Val Asn Gly Thr Thr Gly Ala Val Leu Gly Gln Lys Ala Phe Asp
 Met Tyr Ser Gly Asp Val Met His Leu Val Lys Phe Leu Lys Glu
                 125
 Ile Pro Gly Gly Ala Leu Val Leu Val Ala Ser Tyr Asp Asp Pro
 Gly Thr Lys Met Asn Asp Glu Ser Arg Lys Leu Phe Ser Asp Leu
 Gly Ser Ser Tyr Ala Lys Gln Leu Gly Phe Arg Asp Ser Trp Val
                 170
 Phe Ile Gly Ala Lys Asp Leu Arg Gly Lys Ser Pro Phe Glu Gln
                 185
 Phe Leu Lys Asn Ser Pro Asp Thr Asn Lys Tyr Glu Gly Trp Pro
 Glu Leu Leu Glu Met Glu Gly Cys Met Pro Pro Lys Pro Phe
<210> 416
<211> 21
<212> DNA
<213> Artificial
<220>
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<221> Artificial Sequence

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<222> 1-21
<223> Synthetic construct.
<400> 416
gccatagtca cgacatggat g 21
<210> 417
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 417
ggatggccag agctgctg 18
<210> 418
<211> 26
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-26
<223> Synthetic construct.
<400> 418
aaagtacaag tgtggcctca tcaagc 26
<210> 419
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 419
tctgactcct aagtcaggca ggag 24
<210> 420
<211> 24
<212> DNA
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<220>
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<222> 1-24
<223> Synthetic construct.
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<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-46
<223> Synthetic construct.
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<210> 422
<211> 1701
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 1528
<223> unknown base
<400> 422
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 tgtcctgggg atccagaaac ccatgatacc ctactgaaca ccgaatcccc 100
 tggaagccca cagagacaga gacagcaaga gaagcagaga taaatacact 150
cacgccagga getegetege tetetetete teteteteae teeteeetee 200
 ctctctctct gcctgtccta gtcctctagt cctcaaattc ccagtcccct 250
gcaccccttc ctgggacact atgttgttct ccgccctcct gctggaggtg 300
atttggatcc tggctgcaga tgggggtcaa cactggacgt atgagggccc 350
 acatggtcag gaccattggc cagcctctta ccctgagtgt ggaaacaatg 400
 cccagtcgcc catcgatatt cagacagaca gtgtgacatt tgaccctgat 450
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ggacctgcac aacaatggcc acacagtgca actctctctg ccctctaccc 550
 tgtatctggg tggacttccc cgaaaatatg tagctgccca gctccacctg 600
cactggggtc agaaaggatc cccagggggg tcagaacacc agatcaacag 650
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atgacagett gagtgagget getgagagge etcagggeet ggetgteetg 750
ggcatcctaa ttgaggtggg tgagactaag aatatagctt atgaacacat 800
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tctgagtcac ttgcatgaag tcaggcataa agatcagaag acctcagtgc 850

ctcccttcaa cctaagagag ctgctcccca aacagctggg gcagtacttc 900 cgctacaatg gctcgctcac aactccccct tgctaccaga gtgtgctctg 950 gacagttttt tatagaaggt cccagatttc aatggaacag ctggaaaagc 1000 ttcaggggac attgttctcc acagaagagg agccctctaa gcttctggta 1050 cagaactacc gagcccttca gcctctcaat cagcgcatgg tctttgcttc 1100 tttcatccaa gcaggatcct cgtataccac aggtgaaatg ctgagtctag 1150 gtgtaggaat cttggttggc tgtctctgcc ttctcctggc tgtttatttc 1200 attgctagaa agattcggaa gaagaggctg gaaaaccgaa agagtgtggt 1250 cttcacctca gcacaagcca cgactgaggc ataaattcct tctcagatac 1300 catggatgtg gatgacttcc cttcatgcct atcaggaagc ctctaaaatg 1350 gggtgtagga tctggccaga aacactgtag gagtagtaag cagatgtcct 1400 cetteceetg gacatetett agagaggaat ggacecagge tgteatteea 1450 ggaagaactg cagagccttc agcctctcca aacatgtagg aggaaatgag 1500 gaaatcgctg tgttgttaat gcagaganca aactctgttt agttgcaggg 1550 gaagtttggg atatacccca aagtcctcta ccccctcact tttatggccc 1600 tttccctaga tatactgcgg gatctctcct taggataaag agttgctgtt 1650 gaagttgtat atttttgatc aatatatttg gaaattaaag tttctgactt 1700 t 1701

<210> 423

<211> 337

<212> PRT

<213> Homo sapiens

<400> 423

Met Leu Phe Ser Ala Leu Leu Glu Val Ile Trp Ile Leu Ala 1 5 10 15

Ala Asp Gly Gln His Trp Thr Tyr Glu Gly Pro His Gly Gln 20 25 30

Asp His Trp Pro Ala Ser Tyr Pro Glu Cys Gly Asn Asn Ala Gln 35 40 45

Ser Pro Ile Asp Ile Gln Thr Asp Ser Val Thr Phe Asp Pro Asp 50 55 60

Leu Pro Ala Leu Gln Pro His Gly Tyr Asp Gln Pro Gly Thr Glu 65 70 75

Pro Leu Asp Leu His Asn Asn Gly His Thr Val Gln Leu Ser Leu

80 85 90 Pro Ser Thr Leu Tyr Leu Gly Gly Leu Pro Arg Lys Tyr Val Ala Ala Gln Leu His Leu His Trp Gly Gln Lys Gly Ser Pro Gly Gly Ser Glu His Gln Ile Asn Ser Glu Ala Thr Phe Ala Glu Leu His 125 Ile Val His Tyr Asp Ser Asp Ser Tyr Asp Ser Leu Ser Glu Ala Ala Glu Arg Pro Gln Gly Leu Ala Val Leu Gly Ile Leu Ile Glu Val Gly Glu Thr Lys Asn Ile Ala Tyr Glu His Ile Leu Ser His Leu His Glu Val Arg His Lys Asp Gln Lys Thr Ser Val Pro Pro Phe Asn Leu Arg Glu Leu Leu Pro Lys Gln Leu Gly Gln Tyr Phe 200 Arg Tyr Asn Gly Ser Leu Thr Thr Pro Pro Cys Tyr Gln Ser Val 225 Leu Trp Thr Val Phe Tyr Arg Ser Gln Ile Ser Met Glu Gln 235 Leu Glu Lys Leu Gln Gly Thr Leu Phe Ser Thr Glu Glu Glu Pro 245 255 Ser Lys Leu Leu Val Gln Asn Tyr Arg Ala Leu Gln Pro Leu Asn 260 Gln Arg Met Val Phe Ala Ser Phe Ile Gln Ala Gly Ser Ser Tyr 275 285 Thr Thr Gly Glu Met Leu Ser Leu Gly Val Gly Ile Leu Val Gly Cys Leu Cys Leu Leu Leu Ala Val Tyr Phe Ile Ala Arg Lys Ile 305 310 315 Arg Lys Lys Arg Leu Glu Asn Arg Lys Ser Val Val Phe Thr Ser 320 325 330 Ala Gln Ala Thr Thr Glu Ala 335

<210> 424

<211> 18

<212> DNA

<213> Artificial

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<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
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<210> 425
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 425
cccgatctgc ctgctgta 18
<210> 426
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 426
 ctgcactgta tggccattat tgtg 24
<210> 427
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 427
 cagaaaccca tgatacccta ctgaacaccg aatcccctgg aagcc 45
<210> 428
<211> 1073
<212> DNA
<213> Homo sapiens
<400> 428
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 acattttgcc tcgtggaccc aaaggtagca atctgaaaca tgaggagtac 100
 gattctactg ttttgtcttc taggatcaac tcggtcatta ccacagctca 150
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aacctgcttt gggactccct cccacaaaac tggctccgga tcagggaaca 200 ctaccaaacc aacagcagtc aaatcaggtc tttccttctt taagtctgat 250 accattaaca cagatgetea cactggggee agatetgeat etgttaaate 300 ctgctgcagg aatgacacct ggtacccaga cccacccatt gaccctggga 350 gggttgaatg tacaacagca actgcaccca catgtgttac caatttttgt 400 cacacaactt ggagcccagg gcactatect aageteagag gaattgccae 450 aaatcttcac gagcctcatc atccattcct tgttcccggg aggcatcctg 500 cccaccagtc aggcagggc taatccagat gtccaggatg gaagccttcc 550 agcaggagga gcaggtgtaa atcctgccac ccagggaacc ccagcaggcc 600 gcctcccaac tcccagtggc acagatgacg actttgcagt gaccacccct 650 gcaggcatcc aaaggagcac acatgccatc gaggaagcca ccacagaatc 700 agcaaatgga attcagtaag ctgtttcaaa ttttttcaac taagctgcct 750 cgaatttggt gatacatgtg aatctttatc attgattata ttatggaata 800 gattgagaca cattggatag tcttagaaga aattaattct taatttacct 850 gaaaatattc ttgaaatttc agaaaatatg ttctatgtag agaatcccaa 900 cttttaaaaa caataattca atggataaat ctgtctttga aatataacat 950 tatgctgcct ggatgatatg catattaaaa catatttgga aaactggaaa 1000 aaaaaaaaa aaaaaaaaaa aaa 1073

<210> 429

<211> 209

<212> PRT

<213> Homo sapiens

<400> 429

Ser Leu Pro Gln Leu Lys Pro Ala Leu Gly Leu Pro Pro Thr Lys 20 25 30

Leu Ala Pro Asp Gln Gly Thr Leu Pro Asn Gln Gln Gln Ser Asn

Gln Val Phe Pro Ser Leu Ser Leu Ile Pro Leu Thr Gln Met Leu 50 55 60

Thr Leu Gly Pro Asp Leu His Leu Leu Asn Pro Ala Ala Gly Met
65 70 75

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Thr Pro Gly Thr Gln Thr His Pro Leu Thr Leu Gly Gly Leu Asn 90

Val Gln Gln Gln Leu His Pro His Val Leu Pro Ile Phe Val Thr 105

Gln Leu Gly Ala Gln Gly Thr Ile Leu Ser Ser Glu Glu Leu Pro 120

Gln Ile Phe Thr Ser Leu Ile Ile His Ser Leu Phe Pro Gly Gly 135

Ile Leu Pro Thr Ser Gln Ala Gly Ala Gly Ala Asn Pro Asp Val Gln Asp 150

Gly Ser Leu Pro Ala Gly Arg Leu Pro Thr Pro Ser Gly Thr Asp Asp 180

Asp Phe Ala Val Thr Thr Pro Ala Gly Ser Ala Asn Gly Ile Gln His 195

Ala Ile Glu Glu Ala Thr Thr Glu Ser Ala Asn Gly Ile Gln Ile Gln
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<210> 430

<211> 1257

<212> DNA

<213> Homo Sapien

<400> 430

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cggagcgcgg cggagccaga cgctgaccac gttcctctcc tcggtctcct 100
ccgcctccag ctccgcgtg cccggcagcc gggagccatg cgaccccagg 150
gccccgccgc ctcccgcag cggctccgcg gcctcctgct gctcctgctg 200
ctgcagctgc ccgcgcgtc gagcgcctct gagatcccca aggggaagca 250
aaaggcgcag ctccggcaga gggaggtggt ggacctgtat aatggaatgt 300
gcttacaagg gccagcagaa gtgcctggtc gagacgggag ccctggggcc 350
aatgttattc cgggtacacc tgggatccca ggtcgggatg gattcaaagg 400
agaaaagggg gaatgtctga gggaaagctt tgaggagtcc tggacaccca 450
actacaagca gtgttcatgg agttcattga attatggcat agatcttggg 500
aaaattgcgg agtgtacatt tacaaagatg cgttcaaata gtgctctaag 550
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agcgttggta tttcacattc aatggagctg aatgttcagg acctcttccc 650

attgaagcta taatttatt ggaccaagga agccctgaaa tgaattcaac 700 aattaatatt catcgcactt cttctgtgga aggactttgt gaaggaattg 750 gtgctggatt agtggatgtt gctatctggg ttggcacttg ttcagattac 800 ccaaaaggag atgcttctac tggatggaat tcagtttctc gcatcattat 850 tgaaggaacta ccaaaataaa tgctttaatt ttcatttgct acctcttttt 900 ttattatgcc ttggaatggt tcacttaaat gacattttaa ataagtttat 950 gtatacatct gaatgaaaag caaagctaaa tatgtttaca gaccaaagtg 1000 tgattcaca ctgttttaa atctagcatt attcatttg cttcaatcaa 1050 aagtggttc aatattttt ttagttggtt agaatacttt cttcatagtc 1100 accatctctc aacctataat ttggaatatt gttgtggtct tttgttttt 1150 ctcttagtat agcatttta aaaaaatata aaagctacca atctttgtac 1200 aatttgtaaa tgttaagaat ttttttata tctgttaaat aaaaattatt 1250 tccaaca 1257

<210> 431

<211> 243

<212> PRT

<213> Homo Sapien

<400> 431

Met Arg Pro Gln Gly Pro Ala Ala Ser Pro Gln Arg Leu Arg Gly 1 5 10

Leu Leu Leu Leu Leu Gln Leu Pro Ala Pro Ser Ser Ala

Ser Glu Ile Pro Lys Gly Lys Gln Lys Ala Gln Leu Arg Gln Arg 35 40

Glu Val Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala
50 55 60

Gly Val Pro Gly Arg Asp Gly Ser Pro Gly Ala Asn Val Ile Pro 65 70 75

Gly Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys 80 85 90

Gly Glu Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn 95 100 105

Tyr Lys Gln Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu 110 115 120

Gly Lys Ile Ala Glu Cys Thr Phe Thr Lys Met Arg Ser Asn Ser 125 130 135

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Ala Leu Arg Val Leu Phe Ser Gly Ser Leu Arg Leu Lys Cys Arg
 Asn Ala Cys Cys Gln Arg Trp Tyr Phe Thr Phe Asn Gly Ala Glu
 Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile Ile Tyr Leu Asp Gln
 Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile His Arg Thr Ser
 Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu Val Asp
 Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly Asp
 Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Ile Glu Glu
 Leu Pro Lys
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<223> Artificial Sequence
<400> 432
aggacttgcc ctcaggaa 18
<210> 433
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 433
cgcaggacag ttgtgaaaat a 21
<210> 434
<211> 21
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 434
atgacgctcg tccaaggcca c 21
<210> 435
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<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 435
cccacctgta ccaccatgt 19
<210> 436
<211> 24
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 436
 actccaggca ccatctgttc tccc 24
<210> 437
<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 437
 aagggctggc attcaagtc 19
<210> 438
<211> 19
<212> DNA
<213> Artificial Sequence
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<400> 438
 tgacctggca aaggaagaa 19
<210> 439
<211> 21
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<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 439
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<210> 440
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gggtcgtgtt ttggagaga 19
<210> 441
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ctggccctca gagcaccaat 20
<210> 442
<211> 25
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 442
tectecatea etteceetag eteca 25
<210> 443
<211> 24
<212> DNA
<213> Artificial Sequence
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<400> 443
 ctggcaggag ttaaagttcc aaga 24
<210> 444
<211> 18
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 444
 aaaggacacc gggatgtg 18
<210> 445
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<213> Artificial Sequence
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<210> 446
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<212> DNA
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<223> Synthetic oligonucleotide probe
<400> 446
caattctgga tgaggtggta ga 22
<210> 447
<211> 20
<212> DNA
<213> Artificial Sequence
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<400> 447
 caggactgag cgcttgttta 20
<210> 448
<211> 21
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 448
caaagcgcca agtaccggac c 21
<210> 449
<211> 18
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 ccagacctca gccaggaa 18
<210> 450
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<400> 450
 ccctagctga ccccttca 18
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<212> DNA

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<400> 451
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<210> 452
<211> 26
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<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 452
 ctctcccct cccttttcct ttgttt 26
<210> 453
<211> 18
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<210> 454
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<400> 454
 ccatgcctgc tcagccaaga a 21
<210> 455
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<400> 455
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<210> 456
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<400> 456
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<210> 457
<211> 22
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<223> Synthetic oligonucleotide probe
<400> 457
 atgagtcgca cctgctgttc cc 22
<210> 458
<211> 18
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<223> Synthetic oligonucleotide probe
<400> 458
 tagcagctgc ccttggta 18
<210> 459
<211> 22
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 459
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<210> 460
<211> 23
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 460
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<210> 461
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
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سككتر

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<400> 461
tggacacgtg gcagtgga 18
<210> 462
<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 462
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<210> 463
<211> 27
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 463
 caccatttgt ttctctgtct ccccatc 27
<210> 464
<211> 18
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 464
 ccggcatcct tggagtag 18
<210> 465
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 465
 tccccattag cacaggagta 20
<210> 466
<211> 23
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<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 466
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<210> 467
<211> 18
<212> DNA
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<210> 468
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<223> Synthetic oligonucleotide probe
<400> 468
 actgctccgc ctactacga 19
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<211> 20
<212> DNA
<213> Artificial Sequence
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<400> 469
 aggcatcctc gccgtcctca 20
<210> 470
<211> 19
<212> DNA
<213> Artificial Sequence
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<400> 470
 aaggccaagg tgagtccat 19
<210> 471
<211> 20
<212> DNA
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<400> 471
 cgagtgtgtg cgaaacctaa 20
<210> 472
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<212> DNA
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<223> Synthetic oligonucleotide probe
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<210> 473
<211> 19
<212> DNA
<213> Artificial Sequence
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<400> 473
 aaggccaagg tgagtccat 19
<210> 474
<211> 20
<212> DNA
<213> Artificial Sequence
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<400> 474
 cctactgagg agccctatgc 20
<210> 475
<211> 22
<212> DNA
<213> Artificial Sequence
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